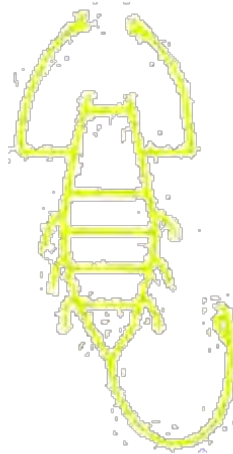


SERKET

سرکت



**The Arachnological Bulletin
of the Middle East and North Africa**

**Volume 12
December, 2011**

**Part 4
Cairo, Egypt**

ISSN: 1110-502X

SERKET

Volume 12

Part 4

December, 2011

Cairo, Egypt

Contents	Page
The first record of <i>Cheiracanthium molle</i> in Saudi Arabia	
Hisham K. El-Hennawy	113
New records of Linyphiidae (Araneae) for Turkish araneo-fauna	
Hayriye Karabulut & Tuncay Türkeş	117
Thomisidae and Philodromidae (Araneae) of the Central Anatolia Region, with a new record for Turkey	
Tuncay Türkeş & Hakan Demir	124
New records of family Lycosidae (Araneae) in Turkey	
Nurcan Demircan & Aydın Topçu	135
A new linyphid spider record from Turkey (Araneae: Linyphiidae)	
Tarık Danışman, Zafer Sancak, İlhan Coşar & Melek Erdek	141
The cobweb spiders (Araneae, Theridiidae) of Uludağ mountain, Bursa	
Rahşen S. Kaya & İsmail Hakkı Uğurtaş	144
The spider fauna of islands of Lake Uluabat, Turkey	
Rahşen S. Kaya, İsmail Hakkı Uğurtaş, Kadir Boğaç Kunt & Abdulmüttalip Akkaya	154

Subscription for volume 12 (2010-2011):

US \$ 25.00 (personal rate), US \$ 35.00 (institutional rate)

Back issues : Volume 1 (1987-1990), Vol. 2 (1990-1992), Vol. 4 (1994-1996),
Vol. 5 (1996-1997), Vol. 6 (1998-2000), Vol. 7 (2000-2001), Vol. 8 (2002-2003),
Vol. 9 (2004-2005), 10 (2006-2007), 11 (2008-2009):

US \$ 25.00 (p.r.), US \$ 35.00 (i.r.) per volume

Volume 3 (1992-1993): US \$ 35.00 (p.r.), US \$ 45.00 (i.r.)

Correspondence concerning subscription, back issues, publication, etc. should be addressed
to the editor:

Hisham K. El-Hennawy

Postal address: **41, El-Manteqa El-Rabia St., Heliopolis, Cairo 11341, Egypt.**

E-mail: el_hennawy@hotmail.com Webpage: <http://serket2008.multiply.com>

ISSN: 1110-502X

The first record of *Cheiracanthium molle* in Saudi Arabia

Hisham K. El-Hennawy

41, El-Manteqa El-Rabia St., Heliopolis, Cairo 11341, Egypt

E-mail: el_hennawy@hotmail.com

Abstract

Cheiracanthium molle L. Koch, 1875 of family Miturgidae is recorded from Al-Baha, Saudi Arabia. It is the first record of this species outside Africa.

Keywords: Spiders, Miturgidae, *Cheiracanthium molle*, Al-Baha, Saudi Arabia.

Introduction

Genus *Cheiracanthium* C.L. Koch, 1839 was transferred from the Clubionidae by Ramírez, Bonaldo & Brescovit, 1997 and recently placed in "Chiracanthiidae" by Ono, 2009 (Platnick, 2011). On the other side, some scientists "follow Deeleman-Reinhold (2001) and Raven (2009, and references therein) in placing the Eutichurinae with *Cheiracanthium* in the Clubionidae" (Jäger & Dankittipakul, 2010). This genus includes 178 species and 1 subspecies, worldwide distributed. In Africa, 42 species of *Cheiracanthium* were recorded (El-Hennawy, 2010).

Cheiracanthium molle L. Koch, 1875 is an African species recorded from: Botswana, Chad, Comores, Democratic Republic of Congo, Ethiopia, Kenya, Rwanda, Tanzania and Zimbabwe (Lotz, 2007). It was described as a new species from Abyssinia (now Ethiopia) by L. Koch (1875) and re-described, in detail, by Lotz (2007: 45-49, Figs. 84-92, 137). It is collected for the first time from Al-Baha, Saudi Arabia. This is the first record outside Africa (Map 1).

Al-Baha province is situated between Makkah and Asir region, in south-western Saudi Arabia. It represents different altitudes, mostly between 800 and 2500m above the sea level. It is characterized by natural tree cover and agricultural plateau. Due to its location, Al-Baha's climate is moderate in summer and cold in winter (Doha, 2009). It belongs to the Afrotropical region. The spiders of Al-Baha are not studied yet.

Abbreviations used: ALE = anterior lateral eye; AME = anterior median eye; AM-AM = inter-distance between anterior median eyes; CA = cymbial apophysis; CI (CL/CW) = carapace index; CL = cephalothorax length; CLL = clypeal length; CON = conductor; CW = cephalothorax width; L = length; LI = total length of leg I;

MOQAW = median ocular quadrangle anterior width; MOQPW = median ocular quadrangle posterior width; OAL = ocular area length; OAW = ocular area width; p = prolateral; PLE = posterior lateral eye; PME = posterior median eye; r = retrolateral; RTA = retrolateral tibial apophysis; STL = sternum length; STW = sternum width; TA = tegular apophysis; TL = total length; v = ventral. All measurements were taken in millimetres.

***Cheiracanthium molle* L. Koch, 1875**

(Figs. 1-6, Tables 1-2, Map 1)

Material examined: 1♂, 1s♂, Saudi Arabia, Al-Baha, Gebel El-Baher (20°00'N, 41°27'E, elevation 2170m). Coll. M.S. El-Hawagry, 25 May 2011.

Description: Male (Fig. 1): TL 4.67; body and legs are creamy-yellowish; CL 2.12, CW 1.61; OAL 0.66; OAW 0.32; CLL 0.05; CI (CL/CW) 1.32 [similar to Lotz (2007)], LI:CL 6.78, STL 1.11, STW 0.79.

Eyes: posterior medians (PME) largest; anterior laterals (ALE) smallest; all inter-distances equal the diameter of AME and PLE. Eye measurements (diameters and inter-distances): AME 0.11, ALE 0.05, PME 0.13, PLE 0.11, AM-AM 0.11, AM-AL 0.11, PM-PM 0.11, PM-PL 0.11, MOQAW 0.32, MOQPW 0.37.

Chelicerae: fang without distinct basal extension, on the contrary of Lotz (2007) (Fig. 2).

Legs: leg formula I-IV-II-III (Table 1) and leg spination (Table 2) almost similar to Lotz (2007).

Table 1: Legs and pedipalp measurements (mm)

Leg	I	II	III	IV	Palp
Femur	3.55	2.39	1.85	2.97	1.06
Patella	1.06	0.79	0.64	0.90	0.26
Tibia	3.82	2.38	1.59	2.65	0.53
Metatarsus	4.24	2.76	2.38	3.71	---
Tarsus	1.70	0.79	0.74	0.85	1.01
Total length	14.37	9.11	7.20	11.08	2.86

Table 2: Leg spination

Leg	Femur	Tibia	Metatarsus
I	p 0-1-1, r 0-1-1	v 2-2,2,2-0	v 2-1 _r -1 _p
II	p 0-1-1, r 0-1-1	p 1-0-1, v 1-2-0	p 1-1-0, v 2-2,2
III	p 0-1-1, r 0-1-1	p 1-0-1, r 1-0-1, v 1-0-0	p 1-1-1, r 1-1-1, v 2-2-2
IV	p 0-1-1, r 0-1-1	p 1-0-1, r 1-0-1, v 1-0-0	p 1-1-1, r 1-1-1, v > 20

Abdomen: L 2.55; more yellowish than cephalothorax; with two darker transverse bands (Fig. 3), not "an indistinct heart-mark" as in Lotz (2007). Palp (Figs. 4-6): "cymbium elongate, longer than patella and tibia combined; three short sharply pointed RTA that curve outward; tegular apophysis large, parallel to conductor and double lobed, fishtail-like at apex; embolus long, almost encircling tegulum, ending at conductor apex; conductor unsclerotised but distinct" as described by Lotz (2007).

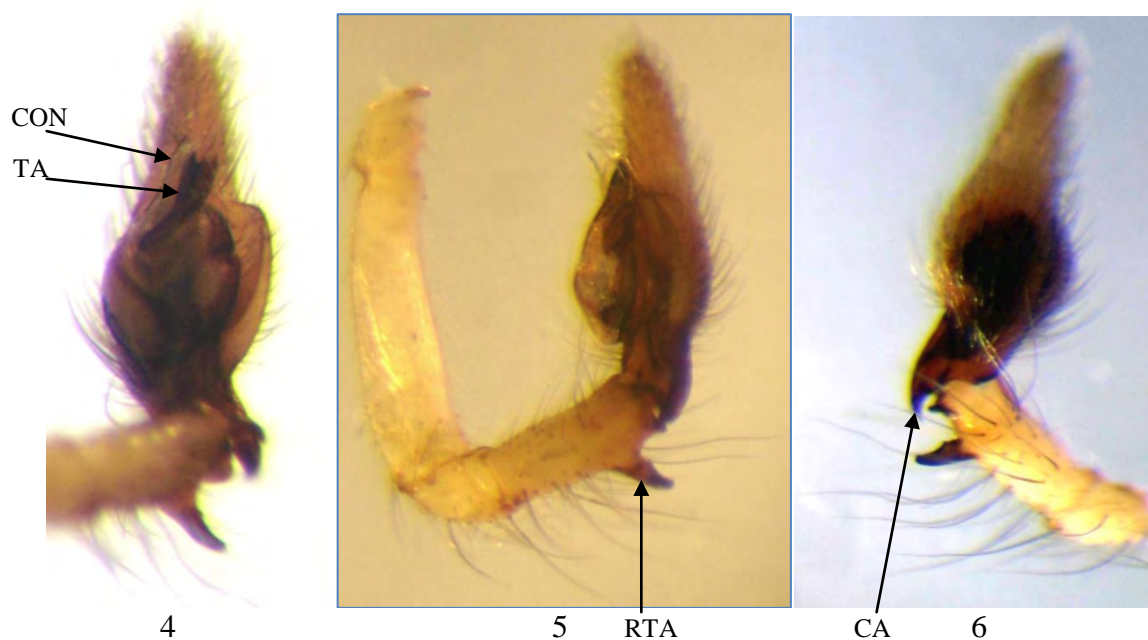
Habitat

Collected from a mountainous region, inside a building among rocks with scattered herbs.



Figs. 1-6: *Cheiracanthium molle* L. Koch, 1875 ♂.

1. Habitus. 2. Cheliceral fang, a. dorsal view, b. ventral view. 3. Abdomen, dorsal view.



4-6. Palp (left).

4. ventral view. 5. prolateral view. 6. dorsal view, showing three pointed apophyses.

CA = cymbial apophysis; CON = conductor; RTA = retrolateral tibial apophysis; TA = tegular apophysis.



Map 1. Distribution of *Cheiracanthium molle* L. Koch, 1875

* = Al-Baha, ● = known records from Africa (modified after Lotz (2007: 69, fig. 137).

Acknowledgment

I am grateful to Dr. Magdi S. El-Hawagry, Professor of Insect taxonomy, Cairo University and Al-Baha University, Al-Baha, Saudi Arabia, who collected the studied specimen during his supervision of the project "Survey and Classification of Agricultural and Medical Insects in Al-Baha District", supported by the Deanship of Scientific Research of Al-Baha University.

References

- Doha, S.A. 2009. Phlebotomine sand flies (Diptera: Psychodidae) in different localities of Al-Baha province, Saudi Arabia. *Egypt. Acad. J. biolog. Sci., E. Medical Entom. & Parasitology*, 1(1): 31- 37.
- El-Hennawy, H.K. 2010. Notes on Spiders of Africa - I. *Serket*, 12(2): 61-75.
- Jäger, P. & Dankittipakul, P. 2010. Clubionidae from Laos and Thailand (Arachnida: Araneae). *Zootaxa*, 2730: 23-43.
- Koch, L. 1875. *Aegyptische und abyssinische Arachniden gesammelt von Herrn C. Jickeli*. Nürnberg, pp. 1-96.
- Lotz, L.N. 2007. The genus *Cheiracanthium* (Araneae: Miturgidae) in the Afrotropical region. 1. Revision of known species. *Navors. nas. Mus., Bloemfontein*, 23: 1-76.
- Platnick, N.I. 2011. *The world spider catalog*, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>.

New records of Linyphiidae (Araneae) for Turkish araneo-fauna

Hayriye Karabulut & Tuncay Türkeş

Department of Biology, Faculty of Science and Arts, Niğde University,

TR-51100 Niğde, Turkey

Corresponding e-mail address: tuncayturkes@nigde.edu.tr

Abstract

Bathyphantes similis Kulczyński, 1894, *Bolyphantes alticeps* (Sundevall, 1833), *Centromerus sylvaticus* (Blackwall, 1841), *Mansuphantes fragilis* (Thorell, 1875), *Micrargus subaequalis* (Westring, 1851), *Nerience peltata* (Wider, 1834), *N. radiata* (Walckenaer, 1841), *Tenuiphantes cristatus* (Menge, 1866), and *T. jacksoni* (Schenkel, 1925) are nine new records for the spider fauna of Turkey. The characteristic features and drawings of female genitalia and male palpal organs are presented. Distribution of these species is plotted on a map.

Keywords: Spiders, Linyphiidae, new records, Black Sea Region, Turkey.

Introduction

Linyphiidae is the second largest family of spiders, including 4401 species (Platnick, 2011). There are 68 species known in the Turkish fauna (Bayram *et al.*, 2007, Demir *et al.*, 2008, Marusik & Kunt, 2009, Seyyar *et al.*, 2008, Tanasevitch *et al.*, 2005, Topçu *et al.*, 2005, 2008). The new records in this study raise the number of linyphiid species known from Turkey to 77.

Material and Methods

This study was carried out through 2007-2010 in 8 localities in the 6 provinces of the Black Sea region (Map1). Spiders were collected using aspirator from among leaves and stems of plants, fallen leaves in forests, on ground, algae upon rocks, soil cracks, stones, boulders and tree bark. They were preserved in 70% ethanol. Examined specimens were deposited in the NUAM. The identification and genitalia drawings were made by means of a SZX-16 Olympus stereomicroscope with a camera lucida, depending on the keys of Heimer & Nentwig (1991) and Roberts (1995) were used.

Abbreviations used: cd = copulatory duct, cdo = copulatory duct opening, cym = cymbium, emb = embolus, fd = fertilization duct, m = metre, mm = millimetre, NUAM: Arachnology Museum of the Niğde University, pcym = paracymbium, sc = scapus, sp = spermatecha, tib = tibia. All measurements are in millimetres and scale lines in the figures correspond to 0.1 mm.



Map 1: Distribution map of linyphiid species newly recorded in the Black Sea Region, 2007-2010, in Turkey. Numbered dots correspond to locality ‘L-1...9’ as shown in “Material examined”.

1. *Bathyphantes similis* Kulczyński, 1894
 2. *Bolyphantes alticeps* (Sundevall, 1833) 3. *Centromerus sylvaticus* (Blackwall, 1841)
 4. *Mansuphantes fragilis* (Thorell, 1875) 5. *Micrargus subaequalis* (Westring, 1851)
 6. *Nerienne peltata* (Wider, 1834) 7. *Nerienne radiata* (Walckenaer, 1841)
 8. *Tenuiphantes cristatus* (Menge, 1866) 9. *Tenuiphantes jacksoni* (Schenkel, 1925)

Results

Bathyphantes similis Kulczyński, 1894

Material examined: 1♂ [L-1], Artvin Province, Murgul District, 11.09.2009 (T. Türkeş).

Male. (Fig. 1) Carapace: 1.00 long, 0.90 wide, brown; sternum brown. Abdomen: 1.00 long, 0.80 wide, black. Legs: orange-brown.

Distribution. Europe, Russia (Platnick, 2011), Turkey (new record).

Habitat. Specimen was collected from low vegetation.

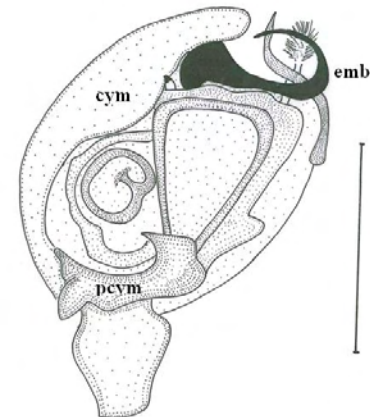


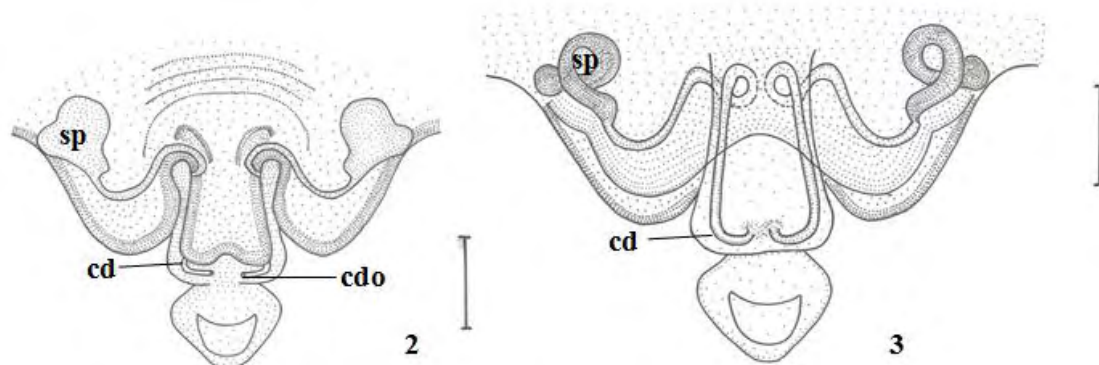
Fig. 1: *Bathyphantes similis* Kulczyński, 1894 ♂ Palp, retrolateral view.

Bolyphantes alticeps (Sundevall, 1833)

Material examined: 1 ♀ [L-2], Trabzon Province, Maçka District, 26.08.2010 (T. Türkeş). Female. (Figs. 2-3) Carapace: 1.50 long, 1.15 wide, yellow with laterally dark greenish brown; sternum dark yellow with laterally dark brown. Abdomen: 2.1 long, 1.25 wide, yellowish brown, dorsally with irregularly arranged spots. Legs: yellowish to light brown, with long, robust spines.

Distribution. Palaearctic (Platnick, 2011), Turkey (new genus record).

Habitat. Specimen was collected from subalpine zone.



Figs. 2-3: *Bolyphantes alticeps* (Sundevall, 1833) ♀ 2. Epigyne, ventral view.

3. Vulvae, dorsal view.

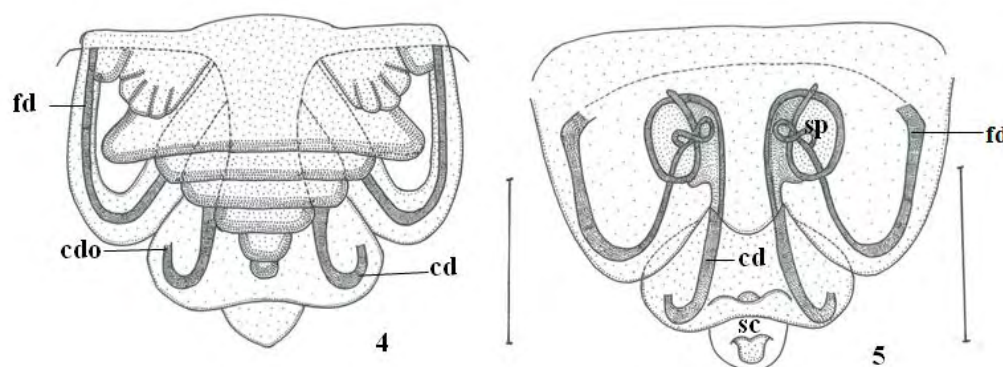
Centromerus sylvaticus (Blackwall, 1841)

Material examined: 1 ♀ [L-3], Çorum Province, the road of Laçın, 1078 m, 28.10.2007 (T. Türkeş).

Female. (Figs. 4-5) Carapace: 1.25 long, 0.80 wide; sternum and carapace yellow. Abdomen: 1.50 long, 0.75 wide, greyish yellow. Legs: light yellow.

Distribution. Holarctic (Platnick, 2011), Turkey (new record).

Habitat. Specimen was collected among dry plant residues in wooded area.



Figs. 4-5: *Centromerus sylvaticus* (Blackwall, 1841) ♀ 4. Epigyne, ventral view.

5. Vulvae, dorsal view.

Mansuphantes fragilis (Thorell, 1875)

Material examined: 1 ♀ [L-4], Trabzon Province, Maçka District, 2150 m, 14.09.2009 (T. Türkeş).

Female. (Fig. 6) Carapace: 1.20 long, 0.80 wide, light yellow; sternum yellowish green. Abdomen: 1.30 long, 0.75 wide, yellow. Legs: light yellow.

Distribution. Europe (Platnick, 2011), Turkey (new record).

Habitat. Specimen was collected from humid forest area on low vegetation.

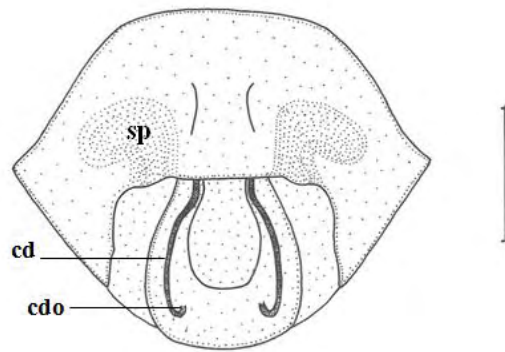


Fig. 6: *Mansuphantes fragilis* (Thorell, 1875) ♀ Epigyne, ventral view.

***Micrargus subaequalis* (Westring, 1851)**

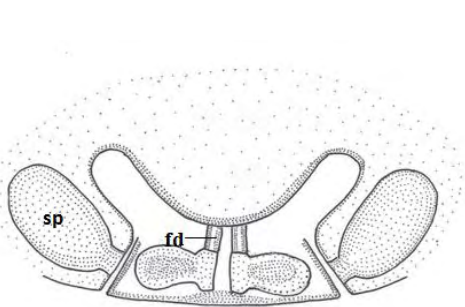
Material examined: 3♀♀, 1♂ [L-5], Artvin Province, Ardanuç District, 2520 m, 29.08.2010 (T. Türkeş).

Male. (Fig. 9) Carapace: 0.90 long, 0.75 wide, yellowish brown; sternum brown. Abdomen: 0.85 long, 0.75 wide, dark brownish black. Legs: light yellowish brown.

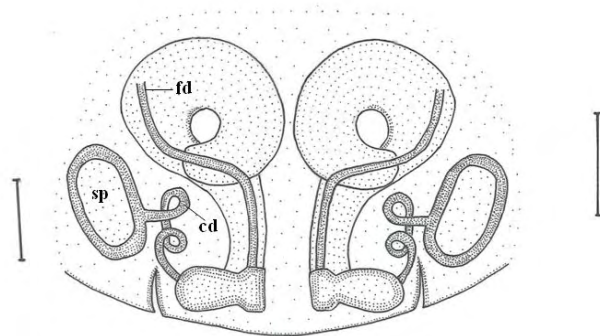
Female. (Figs. 7-8) Carapace: 0.80 long, 0.70 wide; sternum and carapace yellowish green. Abdomen: 0.85 long, 0.75 wide, greyish green. Legs: light yellowish green.

Distribution. Palaearctic (Platnick, 2011), Turkey (new record).

Habitat. Specimens were collected from dry open land.



7



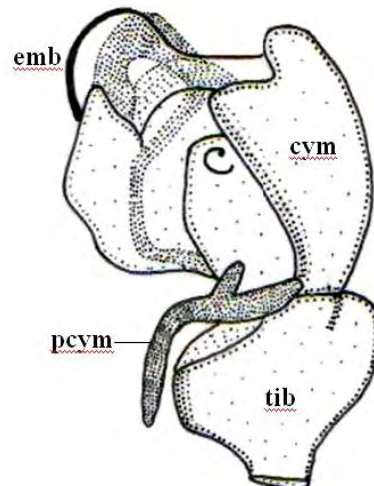
8

Figs. 7-9: *Micrargus subaequalis* (Westring, 1851)

7. ♀ Epigyne, ventral view.

8. ♀ Vulvae, dorsal view.

9. ♂ palp, retrolateral.



9

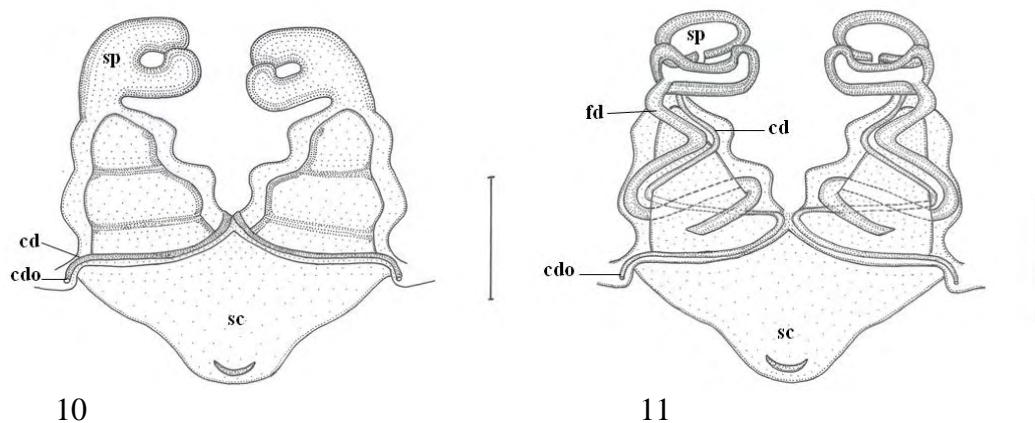
Nerienne peltata (Wider, 1834)

Material examined: 3 ♀ [L-6], Rize Province, Elevit District, 02.07.2009 (T. Türkeş).

Female. (Figs. 10-11) Carapace: 1.00 long, 1.00 wide, yellowish brown; sternum brown. Abdomen: 2.00 long, 1.00 wide, dorsally with dark longitudinal band and irregular white lined margin. Legs: yellow.

Distribution. Greenland, Palaearctic (Platnick, 2011), Turkey (new record).

Habitat. Specimens were collected from on bushes and trees.



Figs. 10-11: *Nerienne peltata* (Wider, 1834) ♀ 10. Epigyne, ventral view. 11. Vulvae, dorsal view.

Nerienne radiata (Walckenaer, 1841)

Material examined: 1 ♀ [L-7], Zonguldak Province, Ereğli District, 380 m, 28.07.08; 1 ♂ and 1 ♀, Giresun Province, Bulancak District, 21.05.08 (T. Türkeş).

Female. (Fig. 12) Carapace: 2.00 long, 1.50 wide, yellowish brown with cephalic part brown; sternum brown. Abdomen: 2.75 long, 1.25 wide, with black pattern. Legs: brown.

Distribution. Holarctic (Platnick, 2011), Turkey (new record).

Habitat. Specimens were collected from high vegetation, on half-shadowed bushes and trees.

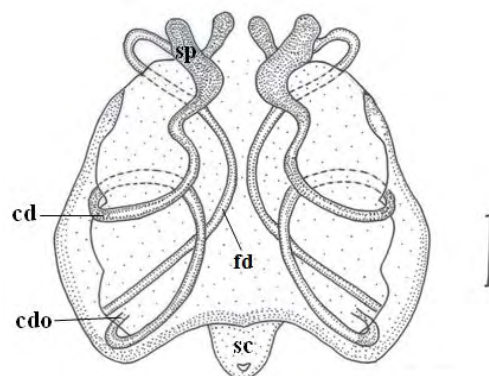


Fig. 12: *Nerienne radiata* (Walckenaer, 1841) ♀ Vulvae, dorsal view.

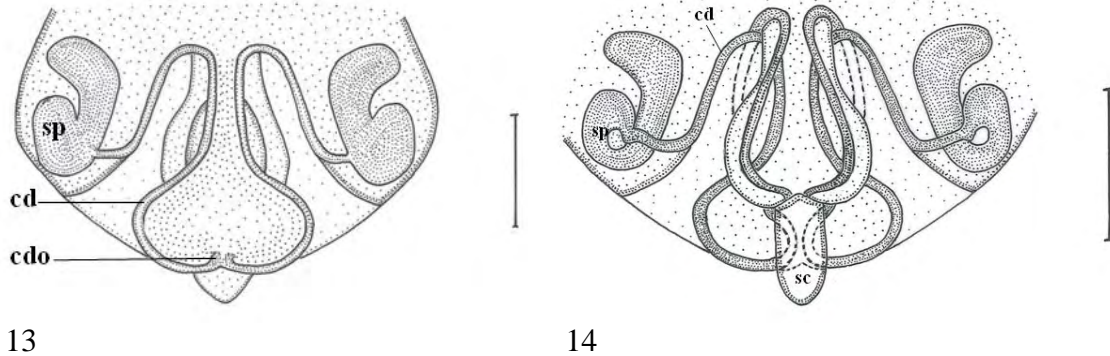
***Tenuiphantes cristatus* (Menge, 1866)**

Material examined: 2♀ [L-8], Kastamonu Province, Ballıdağ District, 1587 m, 19.10.2007 (T. Türkeş).

Female. (Figs. 13-14) Carapace: 1.00 long, 0.75 wide, yellowish orange; sternum orange-brown. Abdomen: 1.50 long, 0.75 wide, grey-white with dark pattern. Legs: yellowish orange.

Distribution. Palaearctic (Platnick, 2011), Turkey (new record).

Habitat. Specimens were collected from litter layer of a deciduous forest.



Figs. 13-14: *Tenuiphantes cristatus* (Menge, 1866) ♀ 13. Epigyne, ventral view. 14. Vulvae, dorsal view.

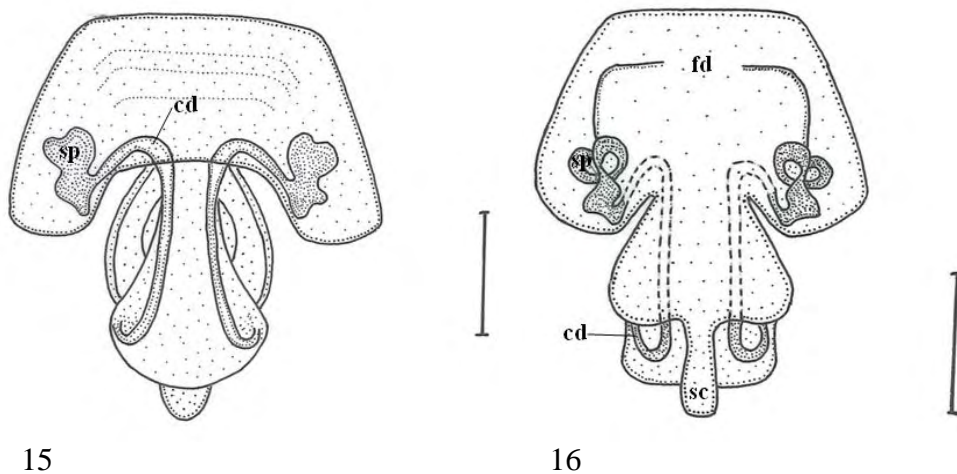
***Tenuiphantes jacksoni* (Schenkel, 1925)**

Material examined: 1♀ [L-9], Trabzon Province, Çaykara District, 2053 m, 01.07.2009 (T. Türkeş).

Female. (Figs. 15-16) Carapace: 1.00 long, 0.75 wide, yellow; sternum yellowish brown. Abdomen: 1.50 long, 1.25 wide, yellowish grey with black chevrons. Legs: muddy yellow.

Distribution. Switzerland, Austria (Platnick, 2011), Turkey (new record).

Habitat. Specimen was collected from subalpine zone in a soil crack.



Figs. 15-16: *Tenuiphantes jacksoni* (Schenkel, 1925) ♀ 15. Epigyne, ventral view. 16. Vulvae, dorsal view.

Conclusion

Comparing the previously recorded 68 linyphiid species from Turkey with the 2367 Palearctic species of family Linyphiidae, we expect that there are more unrecorded linyphiid species in Turkey. Linyphiid species need more detailed studies in Turkey to know their real number and distribution.

Acknowledgment

We are very grateful to the Scientific and Technological Research Council of Turkey (TÜBİTAK) for its financial support of this work (Project No. TBAK: 107T017).

References

- Bayram, A., Danişman, T. Yiğit, N., Çorak, İ. & Sancak, Z. 2007. Three linyphiid species new to the Turkish araneo-fauna: *Cresmatoneta mutinensis* (Canestrini, 1868), *Ostearius melanopygius* (O.P.-Cambridge, 1879) and *Trematocephalus cristatus* (Wider, 1834) (Araneae: Linyphiidae). *Serket*, 10(3): 82-85.
- Demir, H., Topçu, A. & Seyyar, O. 2008. A new species of *Palliduphantes* from Turkish caves (Araneae: Linyphiidae). *Ent. News*, 119: 43-46.
- Heimer, S. & Nentwig, W. 1991. *Spinnen Mitteleuropas: Ein Bestimmungsbuch*. Verlag Paul Parey, Berlin, 543 pp.
- Marusik, Y.M. & Kunt, K.B. 2009. Spiders (Araneae) new to the fauna of Turkey. 7. New species and genera records of Linyphiidae. *Serket*, 11(3/4): 82-86.
- Platnick, N.I. 2011. The world spider catalog, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.
- Roberts, M.J. 1995. *Collins Field Guide: Spiders of Britain & Northern Europe*. HarperCollins, London, 383 pp.
- Seyyar, O., Demir, H. & Türkeş, T. 2008. *Walckenaeria aksoyi* sp. n. (Araneae: Linyphiidae) from Turkey. *Biologia (Bratislava)*, 63: 684-685.
- Tanasevitch, A.V., Kunt, K.B. & Seyyar, O. 2005. A new species of the genus *Megalepthyphantes* Wunderlich from Turkey (Aranei: Linyphiidae: Micronetinae). *Arthropoda Selecta*, 13: 279-280.
- Topçu, A., Demir, H. & Seyyar, O. 2005. A Checklist of the spiders of Turkey. *Serket*, 9(4): 109-140.
- Topçu, A., Türkeş, T. & Seyyar, O. 2008. A new spider of the genus *Troglohyphantes* (Araneae: Linyphiidae) from a Turkish cave. *Zoology in the Middle East*, 45: 91-95.

Thomisidae and Philodromidae (Araneae) of the Central Anatolia Region, with a new record for Turkey

Tuncay Türkeş¹ & Hakan Demir²

¹ Department of Biology, Faculty of Science and Arts, Niğde University,
TR–51100 Niğde, Turkey

² Department of Biology, Faculty of Science and Arts, Gazi University,
TR–06500 Ankara, Turkey

Corresponding e-mail address: tuncayturkes@nigde.edu.tr

Abstract

Faunistic data, including zoogeographical distribution, of 28 species belonging to the families of Thomisidae and Philodromidae are presented. All species were collected from Central Anatolia Region in Turkey between 1996 and 2007. *Philodromus buxi* Simon, 1884 is recorded for the first time from Turkey.

Keywords: Thomisidae, Philodromidae, Araneae, new record, Turkey.

Introduction

Arachnological studies of Turkey began towards the end of the 19th century. They were increased during the 20th century, specially faunistic and taxonomic works. Recently, they continue with an increased speed.

The Thomisidae, commonly called the crab spiders, is a big spider family comprising 177 genera and 2152 species worldwide, of which 78 species of 12 genera are known from Turkey (Bayram *et al.*, 2008; Demir, 2008b; Demir *et al.*, 2008a,b, 2009a,b; Platnick, 2011). The great diversity of form and colour shown by the Thomisidae relates to their exploitation of a wide variety of habitats and their often remarkable capacity for camouflage, sometimes even to the extent of slowly changing colour. The majority of species are rather crab-like in appearance, have the first two pairs of legs longer than the rest, and can walk sideways, as well as forwards and backwards (Roberts, 1995).

Philodromidae or “running crab spiders” are a family of laterigrade, i.e. sideways walking, spiders with essentially equal length of all legs. Philodromidae has been regarded as a subfamily of Thomisidae by early authors, but since the detailed study of Homann (1975) their family status is generally accepted (Platnick, 2011). These spiders are found living under stones, under bark on trees, and in vegetation (Roberts, 1995). The

total of 535 species of Philodromidae have been described so far in 29 genera (Platnick, 2011), with only 27 species belonging to 4 genera were recorded from Turkey (Demir, 2008a).

Material and Methods

The material was collected by pitfall trapping and sweeping net over plants between 1996 and 2007. They were preserved in 70% ethanol and deposited in the collection of the Arachnology Museum of Niğde University (NUAM).

For identification, the keys given by Demir *et al.* (2008a,b, 2009a,b), Levy (1973, 1976), Logunov & Demir (2006), Logunov (2006), Marusik & Logunov (1990, 1995), Roberts (1995), Simon (1932), and Wunderlich (1995) were used. World distribution of all species follows Platnick (2011).

Results

Family Thomisidae Sundevall, 1833

Genus *Diaea* Thorell, 1869

Diaea livens Simon, 1876

Material examined: 1♀, Ankara province, Kızılcahamam district, Işık mountain 10.07.2003.

World Distribution: USA, Central Europe to Azerbaijan.

Genus *Misumena* Latreille, 1804

Misumena vatia (Clerck, 1757)

Material examined: 1♀, Nevşehir, Avanos, 05.06.2000; 1♂, Ankara province, Güdül district, 24.5.2003; 2♂♂, 5♀♀, Çankırı province, Ilgaz district, 28.07.2005; 1♀, Ankara province, Çubuk district, surroundings of Karagöl lake, 16.07.2003.

World Distribution: Holarctic.

Genus *Monaeses* Thorell, 1869

Monaeses israeliensis Levy, 1973

Material examined: 2♀♀, Ankara province, Polatlı district, 18.06.2003; 1♂, Ankara province, Nallıhan district, 14.05.2003; 1♂, 4♀♀, Ankara province, Ayaş district, 14.05.2003; 1♂, 2♀♀, Ankara province, Güdül district, 21.05.2003.

World Distribution: Greece, Turkey, Israel, Lebanon, Central Asia.

Genus *Ozyptila* Simon, 1864

Ozyptila praticola (C.L. Koch, 1837)

Material examined: 1♀, Aksaray province, Ihlara district, 28.06.2004.

World Distribution: Holarctic.

Ozyptila simplex (O.P.-Cambridge, 1862)

Material examined: 1♂, Ankara province, Gölbaşı district, 24.06.2003.

World Distribution: Palaearctic.

Genus *Runcinia* Simon, 1875

Runcinia grammica (C.L. Koch, 1837)

Material examined: 6♀♀, Ankara province, Kızılcahamam district, 30.07.2001; 1♂, Ankara province, Kızılcahamam district, 13.06.2003; 3♂♂, Ankara province, Şerefliçoğuşar district, Tuz lake, 15.06.2002; 1♂, 2♀♀, Ankara province, Gölbaşı

district, Topaklı village, 24.06.2003; 1♂, 1♀, Ankara province, Gölbaşı district, Koparan village, 24.06.2003; 4♂♂, 1♀, Ankara province, Polatlı district, Sapanca village; 4♀♀, Eskişehir province, Beyyazı district, Abbashalimpaşa village, 14.07.2004; 1♀, Ankara province, Polatlı district, Şabanözü village, 18.06.2003; 5♂♂, 1♀, Ankara province, Polatlı district, Sarıhalil village, 18.06.2003; 1♂, Aksaray province, Ortaköy district, Akin village, 29.06.2004; 1♂, 2♀♀, Ankara province, Gölbaşı district, 24.06.2003; 4♀♀, Ankara province, Akyurt district, 23.07.2003; 6♂♂, 5♀♀, Eskişehir province, Çaylom village, 13.07.2004; 2♂♂, 2♀♀, Yozgat province, Akdağmadeni district, 18.07.2003; 10♂♂, 17♀♀, Ankara province, Kazan district, 16.06.2003; 4♂♂, 2♀♀, Ankara province, Nallıhan district, Atça village, 23.06.2003; 1♀, Ankara province, Gündül district, 09.07.2003; 5♂♂, 2♀♀, Ankara province, Nallıhan district, 23.06.2003; 2♂♂, 10♀♀, Ankara province, Kazan district, 16.06.2003; 6♂♂, 7♀♀, Ankara province, Bala district, 21.06.2003; 4♂♂, 1♀, Ankara province, Ayaş district, Ören village, 20.06.2003; 2♂♂, 6♀♀, Kırıkkale province, 25.06.2004; 2♀♀, Kırşehir province, Mucur district, 26.06.2004; 6♂♂, 2♀♀, Kayseri province, Bünyan district, 23.06.2005; 4♂♂, 4♀♀, Ankara province, Polatlı district, Gündoğan village, 18.06.2003.

World Distribution: Palaearctic, St. Helena, South Africa.

Genus *Synema* Simon, 1864

Synema globosum (Fabricius, 1775)

Material examined: 9♀♀, Niğde province, Koyunlu village, 22.05.2002; 3♀♀, Ankara province, Şerflikoçhisar district, Tuz lake, 05.06.2002; 3♀♀, Ankara province, Küçükesat, 27.05.2005; 3♀♀, Niğde province, Ferteke village, 09.06.2005; 3♀♀, Niğde province, Ferteke village, 29.05.2002; 2♀♀, Niğde province, Ulukışla district, Kolsuz pass, 14.05.1996; 2♀♀, Ankara province, Elmadağ district, 15.05.2003; 1♂, 1♀, Ankara province, Evren district, İnebeli village, 28.05.2003; 1♀, Ankara province, Gündül district, Akbaş village, 18.05.2005; 1♀, Niğde province, Ferteke village, 13.05.2004; 3♀♀, Ankara province, Şerflikoçhisar district, Tuz lake, 05.06.2002; 1♀, Niğde province, Ferteke village, 19.05.2005; 1♂, Ankara province, Çubuk district, Karagöl lake, 16.07.2003.

World Distribution: Palaearctic.

Synema utotchkini Marusik & Logunov, 1995

Material examined: 1♂, Niğde, Bor, Okçu village, 09.09.2006.

World Distribution: Turkey, Kazakhstan, Kyrgyzstan.

Genus *Thomisus* Walckenaer, 1805

Thomisus onustus Walckenaer, 1805

Material examined: 3♂♂, Ankara province, Polatlı district, Sarıhalil village, 18.06.2003; 5♂♂, Ankara province, Haymana district, 25.05.2003; 3♂♂, Ankara province, Çubuk district, Karagöl lake, 16.07.2003; 11♂♂, 8♀♀, Ankara province, Şerflikoçhisar district, 29.05.2004; 9♂♂, 6♀♀, Ankara province, Ayaş district, Akkaya village, 14.05.2003; 1♀, Niğde province, Bor district, Tepeköy village, 24.07.1996; 3♂♂, 1♀, Nevşehir province, Ürgüp district, 26.06.2004; 1♂, 2♀♀, Ankara province, Evren district, 29.05.2004; 12♂♂, 4♀♀, Niğde province, Uluğağ pond, 05.06.2002; 1♀, Çankırı province, Ilgaz district, Musaköy village, 28.07.2005; 1♀, Kırıkkale province, center, 23.08.2003; 1♀, Ankara province, Çubuk district, Tuğlaköy village, 25.06.2003; 4♂♂, Niğde province, Ferteke village, 29.05.2002; 13♂♂, 4♀♀, Ankara province, Bala district, Belören village, 21.06.2003; 1♀, Ankara province, Ayaş district, Akçakavak village, 14.05.2003; 2♂♂, Ankara province, Kızılcahamam district, Kavaközü village, 21.05.2003; 1♂, 2♀♀, Ankara province, Çubuk district, Karagöl lake, 16.07.2003; 2♂♂, Ankara province, Nallıhan district, 14.05.2003; 3♀♀, Ankara province, Haymana district, Kesikkavak village, 25.05.2003; 1♂, 1♀, Niğde province, Ferteke village, 28.05.2005; 1♂,

2♀♀, Yozgat province, Saraykent district, 18.07.2003; 2♀♀, Nevşehir province, Hacıbektaş district, 31.07.2001; 1♂, 1♀, Sivas province, Kangal district, 19.07.2003; 2♂♂, 1♀, Ankara province, Evren district, İnebeyli village, 28.05.2003; 2♀♀, Ankara province, Polatlı district, Sapanca village, 18.06.2003; 1♂, Ankara province, Gölbalı district, Topaklı village, 24.06.2003; 2♂♂, 4♀♀, Ankara province, Evren district, Deliler village 28.05.2003; 20♂♂, 16♀♀, Ankara province, Tuz lake, 05.06.2002; 2♀♀, Nevşehir province, Hacıbektaş district, 31.07.2001.

World Distribution: Palaearctic.

Genus *Tmarus* Simon, 1875

Tmarus piochardi (Simon, 1866)

Material examined: 1♂, Niğde province, Meydan plateau, 01.04.2002.

World Distribution: Mediterranean.

Tmarus stellio Simon, 1875

Material examined: 1♀, Ankara province, Kızılcahamam district, 17.06.2003.

World Distribution: Palaearctic.

Genus *Xysticus* C.L. Koch, 1835

Xysticus caperatus Simon, 1875

Material examined: 1♂, Niğde province, Bor district, Hançerli village, 03.07.1996; 2♂♂, 1♀, Aksaray province, Hasan mountain, 28.06.2004; 1♂, Niğde province, Ferteke village, 17.06.2002; 1♂, Ankara province, Polatlı district, Sarıhalil village, 18.06.2003; 1♀, Ankara province, Gündül district, 09.07.2003; 1♀, Kayseri province, Yahyalı district, Ovaçiftliği village, 21.07.2003; 1♀, Kayseri province, Güzelöz district, 23.06.2001; 2♀♀, Ankara province, Çubuk district, Yukarı Emirler village, 04.09.2003; 1♀, Niğde province, Gümüşler village, 18.07.2004; 1♀, Ankara province, Kızılcahamam district, 13.06.2001.

World Distribution: Mediterranean, Russia.

Xysticus edax (O. P.-Cambridge, 1872)

Material examined: 1♂, 1♀, Niğde province, Ulukışla district, Madenköy village, 14.05.2002.

World Distribution: Turkey, Israel.

Xysticus gallicus Simon, 1875

Material examined: 1♀, Niğde province, Ulukışla district, Meydan plateau, 28.06.2007; 2♀♀, Kayseri province, Erciyes mountain, 28.06.2007; 1♂, Niğde province, Çamardı district, Demirkazık mountain, 18.05.2001; 1♀, Çankırı province, Ilgaz district, 21.07.2004; 1♀, Niğde province, Çiftlik district, Azatlı village, Murtaza dam, 27.06.2004; 1♀, Kayseri province, Erciyes mountain, Tekir pond, 21.07.2003.

World Distribution: Palaearctic.

Xysticus gymnocephalus Strand, 1915

Material examined: 1♂, Konya province, Ermenek district, 2005.

World Distribution: Turkey, Lebanon, Israel.

Xysticus kaznakovi Utochkin, 1968

Material examined: 1♂, Niğde province, Ulukışla district, Kolsuz pass, 14.05.1996; 1♂, Niğde province, Ulukışla district, Çiftehan village, 18.05.1996; 1♂, Ankara province, Bala district, 15.05.2003; 1♂, Ankara province, Kalecik district, Ahmetadil village, 30.05.2003; 1♂, Ankara province, Evren district, Deliler village, 28.05.2003.

World Distribution: Turkey to Central Asia.

***Xysticus kochi* Thorell, 1872**

Material examined: 1♀, Konya province, Çumra district, Gökköyük village, 27.05.2005; 2♂ 4♀♀, Ankara province, Haymana district, Culuk village, 10.05.2003; 2♂♂, Ankara province, Kızılcahamam district, Süleler village, 21.05.2003; 2♂♂, 8♀♀, Niğde province, Kayaardı, 05.05.2001; 1♂, Konya province, Cihanbeyli district, Beşkavak village, 13.05.2005; 1♀, Konya province, Bozkır district, Akçapınar village, 15.05.2005; 1♂, Ankara province, Çubuk district, Sarısu village, 16.05.2003; 1♂, Ankara province, Ayaş district, Başbereket village, 30.05.2004; 1♀, Ankara province, Kızılcahamam district, Seyhamamı village, 21.05.2003; 1♀, Ankara province, Şereflikoçhisar district, Tuz lake, 09.05.2003; 1♀, Ankara province, Evren district, Çatalpınar village, 28.05.2003; 2♂♂, 1♀, Ankara province, Kızılcahamam district, Seyhamamı village, 21.05.2003; 2♂♂, 1♀, Niğde province, Ferteke village, 07.05.2002; 2♀♀, Ankara province, Kalecik district, Ahmetadil village, 30.05.2003; 3♀♀, Ankara province, Küçükesat district, 27.05.2005; 1♂, Ankara province, Batıkent district, 01.06.2002; 4♂♂, Ankara province, Kızılcahamam district, 21.05.2003; 2♂♂ 1♀, Ankara province, Gündül district, İlhanlı village, 24.05.2003; 1♂, 1♀, Ankara province, Evren district, Deliler village, 28.05.2003; 1♀, Ankara province, Gölbaşı district, 09.05.2003; 1♀, Ankara province, Şereflikoçhisar district, center, 09.05.2003; 1♂, Niğde province, İtulumaz mountain, 01.06.2002; 1♂, 1♀, Niğde province, Ulukışla district, Maden village, 09.06.2001; 1♀, Konya province, Cihanbeyli district, Kuşçu village, 13.05.2005; 2♂♂, Ankara province, Kızılcahamam district, Kavaközü village, 21.05.2003; 1♂, 1♀, Ankara province, Nallıhan district, Davutoğlu village, 14.05.2003; 1♀, Çankırı province, Çerkeş district, Işık mountain, 27.07.2005; 3♂♂, Konya province, Seydişehir district, Tarasçı village, 15.05.2005; 1♂, Kayseri province, Yeşilhisar district, Soğanlı village, 23.06.2001; 2♀♀, Ankara province, Kızılcahamam district, Seyhamamı village, 21.05.2003; 1♂, Ankara province, Kızılcahamam district, Kavaközü village, 21.05.2003; 1♂, Niğde province, Ulukışla district, 18.07.2003; 1♂, Niğde province, Ferteke village, 06.05.2001; 1♀, Ankara province, Ayaş district, Başbereket village, 20.06.2003; 3♀♀, Ankara province, Gündül district, Garipçe village, 24.05.2003; 1♂, Ankara province, Haymana district, Cingirli village 10.05.2003; 1♀, Ankara province, Nallıhan district, Atça village, 23.06.2003; 2♂, 1♀, Ankara province, Elmadağ district, Küçük Edige village, 15.05.2003; 2♀♀, Niğde province, Selçuk district, 22.05.2005; 2♂♂, 1♀, Ankara province, Bala district, 15.05.2003; 1♂, Gölçük, 10.05.2004; 1♀, Ankara province, Çubuk district, Evci village, 29.05.2003; 3♂♂, Ankara province, Evren district, Çatalpınar village, 28.05.2003; 1♂, Ankara province, Çubuk district, Çavundur village, 16.05.2003; 3♀♀, Niğde province, Ferteke village, 13.05.2004; 2♀♀, Niğde province, Gümüşler village, 04.06.2005; 1♂, Ankara province, Çubuk district, Kışlacık village, 29.05.2003; 1♂, 3♀♀, Niğde, Ferteke, Özbekde, 28.05.2005; 2♀♀, Ankara, Tuz lake, 05.06.2002; 1♂, Ankara province, Haymana district, Dikilitaş village, 25.05.2003; 2♀♀, Niğde province, Ferteke village, 28.05.2005; 1♀, Ankara province, Kızılcahamam district, Süleler village, 21.05.2003; 2♂♂, Ankara province, Ayaş district, Akçakavak village, 14.05.2003; 4♀♀, Ankara province, Gölbalı district, Topaklı village, 24.06.2003; 1♀, Kırşehir province, Çiçekdağı district, 25.06.2004; 2♀♀, Niğde province, Ferteke village, 22.05.2005; 2♀♀, Ankara province, Kızılcahamam district, 21.05.2003; 1♀, Niğde province, Uluğaç village, 29.05.2005.

World Distribution: Europe, Mediterranean to Central Asia.

***Xysticus laetus* Thorell, 1875**

Material examined: 1♀, Niğde province, Ulukışla district, Alihoca village 18.05.2002; 3♀♀, Ankara province, Kızılcahamam district, Süleler village, 21.05.2003; 1♀, Eskişehir province, Mihalicçık district, Gürleyik village, 13.07.2004; 1♀, Niğde province, Uluğaç

pound, 19.05.2004; 3♀♀, Kırşehir province, Mucur district, 26.06.2004; 2♀♀, Ankara province, Ayaş district, Başbereket village, 20.06.2003; 3♀♀, Ankara province, Nallıhan district, Belenören village, 23.06.2003; 1♀, Ankara province, Ayaş district, Bayat village, 20.06.2003; 2♀♀, Ankara province, Güdül district, Garipçe village, 24.05.2003; 2♀♀, Ankara province, Evren district, Deliler village, 28.05.2003; 1♀, Ankara province, Polatlı district, Sapanca village, 18.06.2003; 2♀♀, Ankara province, Beypazarı district, Karaören village, 07.06.2003; 1♀, Ankara province, Kazan district, Karalar village, 16.06.2003; 1♀, Ankara province, Polatlı district, Şabanözü village, 18.06.2003; 1♀, Ankara province, Elmadağ district, 15.05.2003; 1♀, Ankara province, Kızılcahamam district, Korkmazlar village, 21.05.2003; 1♀, Ankara province, Evren district, Torunobası village, 28.05.2003; 1♀, Ankara province, Kızılcahamam district, Kavaközü village, 21.05.2003; 1♂, Ankara province, Elmadağ district, Kuşçualı village, 15.05.2003; 1♂, Niğde province, Çamardı district, Bulduruş pass, 22.04.2001; 1♂, Niğde province, Bor district, 07.04.1996; 1♂, 3♀♀, Ankara province, Haymana district, Boyalık village, 10.05.2003; 1♂, Ankara province, Ayaş district, Akçakavak village, 14.05.2003; 1♀, Kırıkkale province, Keskin district, Yeniyapan village, 21.06.2005; 1♀, Ankara province, Gölbaşı district, 09.05.2003; 1♀, Konya province, Cihanbeyli district, Kuşçu village, 13.05.2005; 2♀♀, Ankara province, Bala district, 15.05.2003; 1♀, Niğde province, Ulukışla district, Madenköy village, 26.06.2002; 2♀♀, Ankara province, Elmadağ district, Küçük Edige village, 15.05.2003; 1♀, Niğde province, Fertek village, 08.07.2003; 1♀, Çankırı province, Korgun district, Kıyısın village, 28.07.2005; 1♀, Ankara province, Ayaş district, Ören village, 20.06.2003; 1♀, Ankara province, Elmadağ district, Akçaali village, 08.06.2003; 1♀, Niğde province, Ulukışla district, Çifttehan village, 18.05.1996; 1♀, Ankara province, Haymana district, Yeşilyurt village, 10.05.2003; 1♀, Konya province, Çumra district, Gökköyük village, 27.05.2005; 1♀, Çankırı province, Çerkeş district, Işık mountain, 27.07.2005; 1♀, Ankara province, Çubuk district, Durhasan village, 25.06.2003; 1♀, Ankara province, Bala district, Karaali village, 21.06.2003; 1♀, Sivas province, Koyulhisar district, Akseki village, 21.07.2005; 2♀♀, Ankara province, Nallıhan district, Davutoğlu village, 14.05.2003; 5♀♀, Ankara province, Ayaş district, Feruz village, 20.06.2003; 2♀♀, Ankara province, Ayaş district, Başbereket village, 20.06.2003.

World Distribution: Italy to Central Asia.

***Xysticus pseudorectilineus* (Wunderlich, 1995)**

Material examined: 4♀♀, Kayseri province, Yahyalı district, Dikme village, 26.05.2007; 1♀, Kayseri province, Yahyalı district, Kapuzbaşı waterfalls, 26.05.2007; 2♂♂, 1♀, Ankara province, Çubuk district, Yukarı Emirler village, 04.09.2003; 1♀, Ankara province, Elmadağ district, Yeşildere village, 23.07.2003; 2♀♀, Niğde province, 23.04.2002; 1♀, Niğde province, Bor district, Kemerhisar village, 15.06.2003; 9♀♀, Niğde province, Gümüşler village, 06.05.2002; 1♀, Niğde province, İncesu village, 12.05.2003.

World Distribution: Greece, Turkey.

***Xysticus striatipes* L. Koch, 1870**

Material examined: 1♂, Ankara province, Çubuk district, Elmalı village, 04.09.2003; 2♀♀, Niğde province, Fertek village, 20.05.2005; 1♀, Ankara province, Çamlıdere district, Atça village, 11.09.2003; 1♂, Ankara province, Akıncı village, 04.09.2004; 1♀, Niğde province, Bor district, 06.07.2001; 1♀, Nevşehir province, Derinkuyu district, Til village, 20.03.2005; 1♀, Niğde province, Ulukışla district, Güney village, 14.05.1996; 1♀, Niğde province, Bor district, Havuzlu village, 23.04.1996; 2♂♂, Nevşehir province, Derinkuyu district, 29.06.2003; 1♂, Niğde province, Ulukışla district, 26.05.2003; 1♀,

Ankara province, Beşevler district, 18.07.2006; 1♂, Niğde province, Ferteke village, 29.05.2002; 2♀♀, Niğde province, İncesu village, 12.05.2003.

World Distribution: Palaearctic.

Xysticus thessalicus Simon, 1916

Material examined: 2♂♂, 4♀♀, Konya province, Seydişehir district, 21.05.2006; 1♀, Kayseri province, Yahyalı district, Dikme village, 26.05.2007; 1♀, Niğde province, Gümüş village, 28.06.2007; 1♂, Kayseri province, Talas district, 18.05.2007; 4♀♀, Ankara province, Kızılcahamam district, Pazar village, 17.06.2003; 1♂, Niğde province, Ferteke village, 18.07.2003; 1♀, Ankara province, Gündül district, Garipçe village, 24.05.2003; 1♂, Konya province, Doğanhisar district, Deştigin village, 14.05.2005; 2♂♂, 1♀, Ankara province, Gölbaşı district, 09.05.2003; 1♀, Ankara province, Çubuk district, Yukarıçavundur village, 16.05.2003; 1♂, Niğde province, Ferteke village, 08.10.2002; 2♀♀, Ankara province, Ayaş district, Başbereket village, 30.05.2004; 1♂, Ankara province, Evren district, Torunobası village, 28.05.2003; 1♀, Niğde province, Ulukışla district, Alihoca village, 26.05.2002; 3♂♂, Ankara province, Kızılcahamam district, Süleler village, 21.05.2003; 9♀♀, Ankara province, Kızılcahamam district, Seyhamamı village, 21.05.2003; 3♀♀, Ankara province, Ayaş district, Akçakavak village, 14.05.2003; 2♂♂, 1♀, Ankara province, Kızılcahamam district, Kavaközü village, 21.05.2003; 1♂♂, 1♀, Niğde province, Ferteke village, 29.05.2002; 1♀, Niğde province, Ulukışla district, 18.07.2003; 1♀, Ankara province, Gündül district, Akbaş village, 18.05.2005; 1♀, Ankara province, Haymana district, 29.05.2004; 2♀♀, Ankara province, Şereflikoçhisar district, Tuz lake, 05.06.2002; 2♂♂, Kayseri province, Hacılar district, 28.04.2004; 2♂♂, Niğde province, Altunhisar district, Keçiboyduran hill, 27.06.2004; 1♀, Kayseri province, Hisarcık district, 05.05.2006; 1♀, Kayseri province, Kıranardı Village, 27.04.2004; 1♀, Ankara province, Haymana district, 29.05.2004; 2♂♂, Niğde province, Koyunlu village, 22.05.2003; 2♀♀, Ankara province, Ayaş district, Bayat village, 20.06.2003.

World Distribution: Balkans, Greece, Turkey, Israel.

Xysticus tristrami (O. P.-Cambridge, 1872)

Material examined: 1♀, Kayseri province, Yahyalı district, Kapuzbaşı waterfalls, 26.05.2007; 3♂♂, 3♀♀, Kayseri province, Yahyalı district, Dikme village, 26.05.2007; 6♀♀, Konya province, Beyşehir district, Bademli village, 28.06.2007; 2♂♂, 3♀♀, Niğde province, Ulukışla district, Kolsuz pass, 14.05.1996; 2♀♀, Niğde province, Ferteke village, 09.06.2005; 1♀, Ankara province, Çubuk district, Elmalı village, 04.09.2003; 1♀, Kayseri province, Yeşilhisar district, Araplıbeli village, 18.05.2003; 1♂, 7♀♀, Niğde province, Ferteke village, 28.05.2005; 1♀, Nevşehir province, Ürgüp district, 14.05.2005; 2♀♀, Ankara province, Beypazarı district, Geyikpınarı village, 07.06.2003; 1♀, Niğde province, Ferteke village, 05.07.2002; 1♂, 3♀♀, Niğde province, Ulukışla district, Meydan plateau, 01.06.2002; 1♀, Kırıkkale province, Gürler village, 12.08.2003; 3♀♀, Niğde province, Gümüşler village, 04.06.2005; 1♂, Niğde province, 22.05.2004; 1♂, 1♀, Ankara province, Kızılcahamam district, 21.05.2003; 1♂, 2♀♀, Niğde province, Ferteke village, 13.05.2004; 2♀♀, Konya province, Cihanbeyli district, Beşkavak village, 13.05.2005; 1♀, Niğde province, İtulumaz mountain, 01.06.2002; 9♀♀, Aksaray province, Gülağaç district, 19.03.2005; 2♂♂, 1♀, Niğde province, Ferteke village, 08.10.2002; 5♀♀, Niğde province, Roma pond, 01.06.1996; 1♂, 1♀, Niğde province, Kayaardı, 14.05.1996; 1♀, Niğde province, Gümüşler village, 17.07.2003; 5♂♂, 6♀♀, Ankara province, Akyurt district, Kozludere village, 30.05.2003; 4♀♀, Niğde province, Ferteke village, 24.03.1996.

World Distribution: Saudi Arabia to Central Asia.

Xysticus xerodermus Strand, 1913

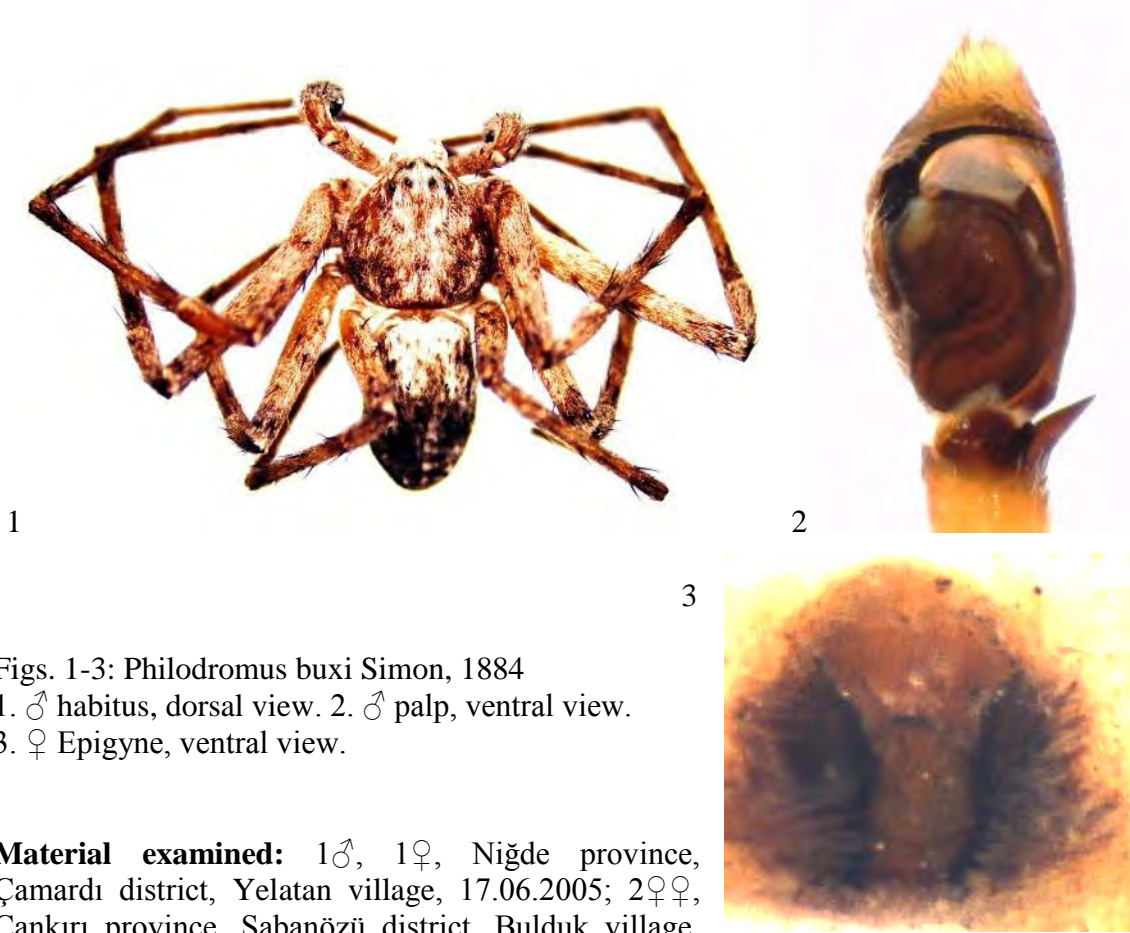
Material examined: 1♀, Ankara province, Ayaş district, Feruz village, 20.06.2003.

World Distribution: Turkey, Israel.

Family **Philodromidae** Thorell, 1870

Genus *Philodromus* Walckenaer, 1826

Philodromus buxi Simon, 1884 (Figs. 1-3)



Figs. 1-3: *Philodromus buxi* Simon, 1884

1. ♂ habitus, dorsal view. 2. ♂ palp, ventral view.

3. ♀ Epigyne, ventral view.

Material examined: 1♂, 1♀, Niğde province, Çamardı district, Yelatan village, 17.06.2005; 2♀♀, Çankırı province, Şabanözü district, Bulduk village, 29.07.2005; 1♀, Ankara province, Çubuk district, Başören village, 16.07.2003; 6♀♀, Ankara province, Akyurt district, 23.07.2003; 1♀, Ankara province, Çubuk district, Ovacık village, 25.06.2003; 3♀♀, Çankırı province, Ilgaz district, 21.07.2004; 3♀♀, Yozgat province, Çamlık, 18.07.2003; 4♀♀, Çankırı province, Çerkeş district, Karga village, 27.07.2005; 2♀♀, Ankara province, Haymana district, Dikilitaş village, 25.05.2003; 4♂♂, 8♀♀, Ankara province, Ayaş district, Ilıca village, 30.05.2004; 1♀, Ankara province, Kızılcahamam district, Kavaközü village, 17.06.2003; 2♀♀, Ankara province, Ayaş district, Bayat village, 20.06.2003; 1♀, Yozgat province, Akdağmadeni district, Oluközü village, 20.07.2005; 1♂, 1♀, Aksaray province, Gülağaç district, Doğanlarla village, 18.06.2005; 1♀, Ankara province, Nallıhan district, 23.06.2003; 1♂, Konya province, Çumra district, Gökköyük village, 27.05.2005; 1♀, Ankara province, Nallıhan district, Atça village, 23.06.2003; 3♀♀, Kırşehir province, Mucur district, 26.06.2004; 1♀, Kırşehir province, Kaman district, Akpınar village, 25.06.2004; 1♀, Ankara province, Kızılcahamam district, Işık mountain, 10.07.2003; 1♂, Ankara province, Şereflikoçhisar district, Sadıklı village, 28.05.2003; 6♀♀, Ankara province, Güdül district, 09.07.2003; 1♀, Ankara province, Kızılcahamam district, 17.06.2003;

1♀, Ankara province, Bala district, Atça village, 21.06.2003; 1♀, Çankırı province, Ilgaz district, Musaköy village, 28.07.2005; 2♂♂, 2♀♀, Kayseri province, Himmetdede district, 24.06.2005; 1♀, Ankara province, Beypazarı district, Geyikpınarı village, 07.06.2003; 3♀♀, Ankara province, Kızılcahamam district, Pazar village, 17.06.2003; 1♀, Ankara province, Beypazarı district, Karaören village, 07.06.2003; 1♂, 1♀, Kayseri province, Yeşilhisar district, Güzelöz village, 22.06.2005.

Distribution: Europe to Kazakhstan.

***Philodromus cespitum* (Walckenaer, 1802)**

Material examined: 1♂, 1♀, Kayseri province, Yeşilhisar district, Soğanlı, 23.06.2001; 3♀♀, Ankara province, Kızılcahamam district, 30.07.2001; 4♀♀, Aksaray province, Gülağaç district, Belisırma village, Ihlara valley, 12.08.2001; 1♂, Ankara province, Kazan district, Memlik village, 16.06.2003; 1♂, Aksaray province, Ihlara district, Ihlara valley, 28.06.2004; 1♂, Ankara province, Çubuk district, Durhasan village, 25.06.2003; 2♂♂, Ankara province, Gündül district, İlhan köy village, 24.05.2003; 1♂, Ankara province, Çubuk district, Evci village, 29.05.2003; 2♂♂, Yozgat province, Yenifakılı district, Bektaşlı village, 24.06.2005; 1♂, Ankara province, Elmadağ district, Gümüşyayla village, 08.06.2003; 3♂♂, 1♀, Aksaray province, Ortaköy district, Yukarıkabakulak village, 16.06.2005; 3♂♂, 4♀♀, Ankara province, Bala district, Karaali village, 21.06.2003; 4♂♂, 1♀, Niğde province, Uluğaç village, 29.05.2005; 1♂, 4♀♀, Kırşehir province, Mucur district, Kargınlı village, 26.06.2004; 3♂♂, 8♀♀, Kayseri province, Pınarbaşı district, Karaboğaz village, 23.06.2005; 1♂, 1♀, Niğde province, Çamardı district, Yelatan village, 17.06.2005; 3♂♂, 1♀, Ankara province, Ayaş district, Başberek village, 20.06.2003; 1♀, Ankara province, Haymana district, Soğulca village, 25.05.2003; 1♂, 2♀♀, Ankara province, Elmadağ district, Akçaali village, 08.06.2003; 1♂, 1♀, Nevşehir province, Ürgüp district, 26.06.2004; 1♀, Ankara province, Çubuk district, Tuğlaköy village, 25.06.2003; 7♀♀, Ankara province, Kızılcahamam district, Seyhamamı village, 17.06.2003; 1♀, Ankara province, Ayaş district, Feruz village, 30.05.2004; 1♂, 4♀♀, Ankara province, Kazan district, Karalar village, 16.06.2003; 1♀, Nevşehir province, Ürgüp district, Mustafapaşa village, 22.06.2005; 1♀, Kırşehir province, Boztepe district, Eskidoğanlı village, 22.07.2003; 1♂, Ankara province, Kızılcahamam district, 17.06.2003; 1♀, Sivas province, Yıldızeli district, Mentepe village, 22.07.2005; 2♂♂, 5♀♀, Ankara province, Ayaş district, Feruz village, 20.06.2003; 1♀, Çankırı province, Ilgaz district, Musaköy village, 28.07.2005; 2♂♂, Ankara province, Ayaş district, Bayat village, 20.06.2003; 2♂♂, 2♀♀, Kayseri province, Himmetdede district, 24.06.2005; 7♀♀, Ankara province, Kızılcahamam district, Pazar village, 17.06.2003; 3♂♂, Kayseri province, Yeşilhisar district, Güzelöz village, 22.06.2005; 1♂, Kayseri province, Tomarza district, Köprüköy village, 23.06.2005; 1♂, Ankara province, Ayaş district, Ören village, 20.06.2003; 3♂♂, Ankara province, Beypazarı district, Geyikpınarı village, 07.06.2003.

Distribution: Holarctic.

***Philodromus poecilus* (Thorell, 1872)**

Material examined: 1♀, Niğde province, Bor district, 03.07.2004; 1♀, Ankara province, Ayaş district, Ilıca village, 30.05.2004; 1♀, Ankara province, Gündül district, 09.07.2003.

Distribution: Palaearctic.

Genus *Thanatus* C.L. Koch, 1837

***Thanatus vulgaris* Simon, 1870**

Material examined: 2♂♂, 10♀♀, Ankara district, Şereflikoçhisar district, Tuz lake, 05.06.2002; 1♂, 1♀, Ankara province, Bala district, Nallıgölcük village, 21.06.2003; 1♂,

Niğde province, Bor district, Kızılca village, 01.06.1996; 2♂♂, Ankara province, Şereflikoçhisar district, 29.05.2004; 1♂, Ankara province, Kızılcahamam district, 21.05.2003.

Distribution: Holarctic.

Genus *Tibellus* Simon, 1875

Tibellus oblongus (Walckenaer, 1802)

Material examined: 1♂, 1 ♀, Ankara province, Gölbalı district, Topaklı village, 24.06.2003; 1♂, 2♀♀, Ankara province, Şereflikoçhisar district, Sadıklı village, 28.05.2003; 1♀, Ankara province, Ayaş district, Feruz village, 30.05.2004; 1♀, Ankara province, Ayaş district, Bayat village, 20.06.2003; 4♂♂, 3♀♀, Ankara province, Ayaş district, Başbereket village, 20.06.2003; 1♂, Ankara province, Ayaş district, Başbereket village, 30.05.2004; 2♂♂, 2♀♀, Ankara province, Haymana district, 29.05.2004; 1♀, Niğde province, Fertek village, 27.05.2005; 1♂, 2♀♀, Ankara province, Elmadağ district, Küçük Edige village, 15.05.2003; 1♂, 3♀♀, Sivas province, Yıldızeli district, Mentepe village, 22.07.2005; 1♂, 3♀♀, Ankara province, Kızılcahamam district, Pazar village, 17.06.2003; 4♂♂, 5♀♀, Niğde province, Akkaya dam, 06.07.2001; 1♂, 3♀♀, Ankara province, Çubuk district, Ovacık village, 29.05.2003; 1♂, 1♀, Ankara province, Çubuk district, Ovacık village, 25.06.2003; 2♂♂, Ankara province, Haymana district, 10.05.2003; 4♂♂, 3♀♀, Ankara province, Şereflikoçhisar district, Tuz lake, 09.05.2003; 1♂, 2♀♀, Ankara province, Elmadağ district, Gümüşyayla village, 08.06.2003; 4♂♂, 1♀, Ankara province, Kızılcahamam district, 21.05.2003; 2♂♂, Ankara province, Gölbaşı district, Tuluntaş village, 20.05.2003; 1♂, 4♀♀, Konya province, Kulu district, Kozanlı village, 13.05.2005; 1♂, 3♀♀, Ankara province, Güdül district, Garipçe village, 24.05.2003; 2♀♀, Ankara province, Nallıhan district 17.07.2003; 2♂♂, 2♀♀, Kayseri province, Sultan morass, 27.05.2005; 1♀, Ankara province, Bala district, Atça village, 21.06.2003; 2♂♂, 2♀♀, Ankara province, Elmadağ district, Kuşcuali village, 15.05.2003; 2♂♂, 2♀♀, Ankara province, Kazan district, Bitik village, 16.06.2003; 1♂, 1♀, Ankara province, Evren district, Torunobası village, 28.05.2003; 1♀, Ankara province, Ayaş district, Akkaya village, 14.05.2003; 1♀, Yozgat province, Topçu village, 20.07.2005; 1♂, 2♀♀, Kırşehir province, Mucur district, Kargınlı village, 26.06.2004.

Distribution: Holarctic.

References

- Bayram, A., Kunt, K.B., Özgen, İ., Bolu, H., Karol, S. & Danişman, T. 2009. A crab spider *Tmarus piger* (Walckenaer, 1802) (Araneae; Thomisidae) new for Turkish araneofauna. *Turk J Arach.*, 1(2): 141-144.
- Demir, H. 2008a. An updated checklist of the Philodromidae (Araneae) of Turkey with zoogeographical remarks. *Serket*, 11(1): 7-12.
- Demir, H. 2008b. An updated checklist of the Thomisidae (Araneae) of Turkey with zoogeographical remarks. *Serket*, 11(2): 37-50.
- Demir, H., Aktaş, M. & Seyyar, O. 2008a. The female of *Xysticus pseudorectilineus* (Wunderlich, 1995) (Araneae: Thomisidae) from Turkey. *Zootaxa*, 1674: 65-68.
- Demir, H., Seyyar, O. & Aktaş, M. 2008b. A poorly known species of the spider genus *Xysticus* C. L. Koch (Araneae, Thomisidae) in Turkey. *Archives of Biological Sciences*, 60(4): 17-18.
- Demir, H., Aktaş, M. & Topçu, A. 2009a. New records of little-known species of *Xysticus* C. L. Koch, 1835 in Turkey (Araneae: Thomisidae). *Zoology in the Middle East*, 46: 99-102.

- Demir, H., Aktaş, M. & Topçu, A. 2009b. A new species of the genus *Synema* Simon, 1864 (Araneae: Thomisidae) from Turkey. *Biologia*, 64(4): 742-744.
- Homann, H. 1975. Die Stellung der Thomisidae und der Philodromidae im System der Araneae (Chelicerata, Arachnida). *Z. Morph. Tiere*, 80: 181-202.
- Levy, G. 1973. Crab-spiders of six genera from Israel (Araneae: Thomisidae). *Israel J. Zool.*, 22: 107-141.
- Levy, G. 1976. The spider genus *Xysticus* (Araneae: Thomisidae) in Israel. *Israel J. Zool.*, 25: 1-37.
- Logunov, D.V. 2006. Notes on *Xysticus kempeleni* Thorell, 1872 and two closely related spider species (Araneae: Thomisidae). *Acta arachn. Tokyo*, 55(1): 59-66.
- Logunov, D.V. & Demir, H. 2006. Further faunistic notes on *Cozyptila* and *Xysticus* from Turkey (Araneae, Thomisidae). *Arachnol. Mitt.*, 31: 40-45.
- Marusik, Y.M. & Logunov, D.V. 1990. The crab spiders of middle Asia, USSR (Aranei, Thomisidae). 1. Descriptions and notes on distribution of some species. *Korean Arachnol.*, 6: 31-62.
- Marusik, Y.M. & Logunov, D.V. 1995. The crab spiders of Middle Asia (Aranei, Thomisidae), 2. *Beitr. Araneol.*, 4: 133-175.
- Platnick, N.I. 2011. The world spider catalog, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.
- Roberts, M.J. 1995. *Collins Field Guide: Spiders of Britain & Northern Europe*. HarperCollins, London, 383 pp.
- Simon, E. 1932. *Les arachnides de France. Tome VI. Synopsis générale et catalogue des espèces françaises de l'ordre des Araneae; 4e partie*. Paris, 6: 773-978.
- Wunderlich, J. 1995. Zur Kenntnis west-paläarktischer Arten der Gattungen *Psammitis* Menge 1875, *Xysticus* C. L. Koch 1835 und *Ozyptila* Simon 1864 (Arachnida: Araneae: Thomisidae). *Beitr. Araneol.*, 4: 749-774.

New records of family Lycosidae (Araneae) in Turkey

Nurcan Demircan & Aydın Topçu

Department of Biology, Faculty of Science and Arts, Niğde University,

TR-51200, Niğde, Turkey

Corresponding e-mail address: aydintopcu@nigde.edu.tr

Abstract

Arctosa maculata (Hahn, 1822), *A. stigmosa* (Thorell, 1875), *Pardosa aenigmatica* Tongiorgi, 1966, *P. blanda* (C.L. Koch, 1833), *P. mixta* (Kulczyński, 1887), *P. saltans* Töpfer-Hofmann, 2000, and *Pirata insularis* Emerton, 1885 are identified as new records for the Turkish araneofauna to increase the number of Turkish lycosids from 63 to 70. Their characteristic features and illustrations are presented.

Keywords: Spiders, Lycosidae, systematics, habitat, Central Anatolia Region, Turkey.

Introduction

The family Lycosidae is known as wolf spiders. They live mostly solitary and hunt alone. They are real hunters that live in a wide variety of terrestrial habitats. They have eight eyes arranged in three rows. The bottom row consists of four small eyes, the middle row has two large eyes and the top row has two medium-sized eyes. They have excellent eyesight and they can look in four directions. The species of Lycosidae are usually marked with various shades of brown, gray, buff and black. They have well-developed legs. They carry their egg sacs by attaching them to their spinnerets. Family Lycosidae includes 118 genera and 2382 species worldwide (Platnick, 2011). It is represented by 63 species classified in 11 genera in Turkey (Topçu *et. al.*, 2005).

In this study, *Arctosa maculata* (Hahn, 1822), *Arctosa stigmosa* (Thorell, 1875), *Pardosa aenigmatica* Tongiorgi, 1966, *Pardosa blanda* (C.L. Koch, 1833), *Pardosa mixta* (Kulczyński, 1887), *Pardosa saltans* Töpfer-Hofmann, 2000, *Pirata insularis* Emerton, 1885 are recorded for the first time from Turkey.

Material and Methods

The specimens were collected from different locations of Central Anatolia Region. These specimens were preserved in 70% ethanol. The identification keys of

Simon (1937), Locket & Millidge (1951), Tyschchenko (1971), Heimer & Nentwig (1991), and Roberts (1995) were used. SZX16 and SZ61 Olympus binocular stereomicroscopes were used during identification. The photographs of species were taken by digital camera. Zoogeographic distributions of species have been given according to the world spider catalog database (Platnick, 2011). Examined specimens were deposited in the Arachnology Museum of Niğde University (NUAM). All measurements are in millimetres and scale lines in the figures correspond to 1 mm.

Results

Arctosa maculata (Hahn, 1822)

Material examined: 3♀, Turkey, Kayseri province, Yahyalı district, Delialıuşağı village, 22.VI.2005.

Description: Female (Fig. 1): Prosoma length 4.1-4.5, reddish brown with dark spots, brighter median band distinctly serrated. Legs yellowish, femora with weak annulations. Opisthosoma light brown with yellow median stripe. Epigynal atrium divided by broad septum.

World distribution: Europe, Russia.

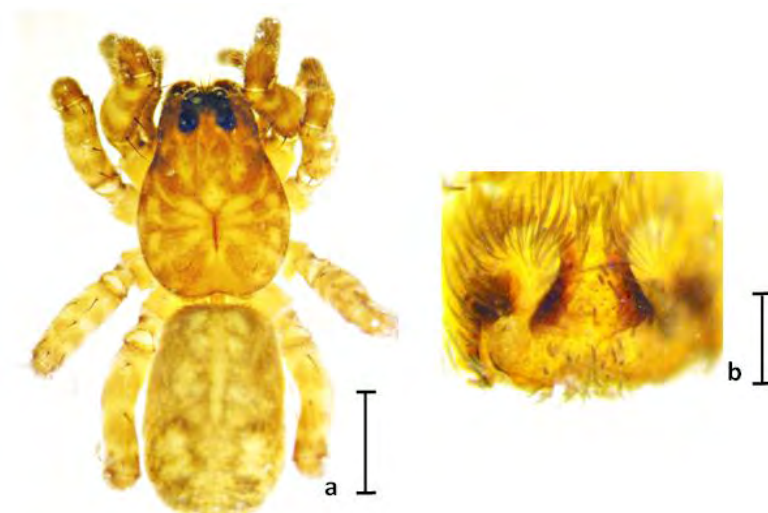


Fig. 1: *Arctosa maculata* (Hahn, 1822). **a.** Habitus of female. **b.** Epigyne.
Scale lines = 1.0 mm

Arctosa stigmosa (Thorell, 1875)

Material examined: 1♀, Turkey, Çankırı province, Dodurga district, 21.VII.2004.

Description: Female (Fig. 2): Prosoma length 2.7-3.7, yellow-brown, whitish in eye region. Opisthosoma yellowish green, median longitudinal stripe merging anteriorly with two brighter spots. Legs yellowish, vaguely annulated. Epigyne with anteriorly divergent median part.

World distribution: France, Norway to Ukraine.

Pardosa aenigmatica Tongiorgi, 1966

Material examined: 1♀, Turkey, Ankara province, Kızılcahamam district, Süleler village, 21.V.2003; 1♀, Ankara province, Kızılcahamam district, Korkmazlar village, 21.V.2003.

Description: Female (Fig. 3): Total length 8.0. Prosoma dark brown with light median stripe. Opisthosoma greyish brown. Epigynal atrium narrow medially, widening posteriorly.

World distribution: Italy, Azerbaijan.

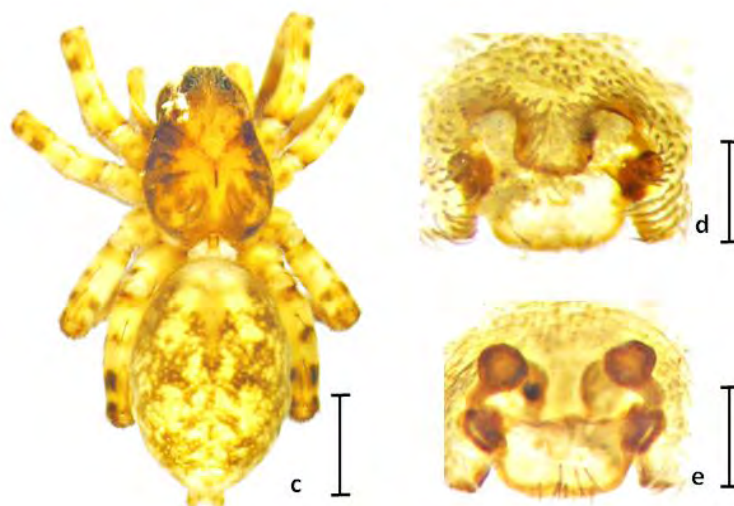


Fig. 2: *Arctosa stigmosa* (Thorell, 1875). **c.** Habitus of female. **d.** Epigyne. **e.** Vulvae. Scale lines = 1.0 mm



Fig. 3: *Pardosa aenigmatica* Tongiorgi, 1966. **f.** Habitus of female. **g.** Epigyne. **h.** Vulvae. Scale lines = 1.0 mm

Pardosa blanda (C.L. Koch, 1833)

Material examined: 1♀, Turkey, Çankırı province, Çerkeş district, Işık mountain, 27.VII.2005; 1♀, Çankırı province, Bayramören district, 27.VII.2005; 1♀, Yozgat province, Aydıncık district, 22.VII.2005.

Description: Female (Fig. 4): Prosoma length 2.9-3.4, dark brown with yellowish median band and lateral bands. Legs dark brown, tarsi and metatarsi annulated. Opisthosoma reddish brown. Septum of epigyne longer than wide.

World distribution: Palaeartic.



Fig. 4: *Pardosa blanda* (C.L. Koch, 1833). **i.** Habitus of female. **j.** Epigyne. **k.** Vulvae. Scale lines = 1.0 mm

Pardosa mixta (Kulczyński, 1887)

Material examined: 1♀, Turkey, Niğde province, Merkez district, 05.VI.2003.

Description: Female (Fig. 5): Prosoma length 3.0, dark brown. Opisthosoma red-brown. Legs with weak annulations, leg I with oppressed hairs. Femur dorsally with long spots. Epigyne with parallel sides of septum, posterior angle obtuse, often wrinkled.

World distribution: Europe.



Fig. 5: *Pardosa mixta* (Kulczyński, 1887). **i.** Habitus of female. **m.** Epigyne. **n.** Vulvae. Scale lines = 1.0 mm

Pardosa saltans Töpfer-Hofmann, 2000

Material examined: 2♀♀, Turkey, Ankara province, Kızılcahamam district, Süleler village, 21.V.2003; 2♂♂, Ankara province, Kızılcahamam district, Kavaközü village, 21.V.2003; 1♀, Ankara province, Güdül district, Tahtaörencik village, 24.V.2003; 1♂, 3♀♀, Ankara province, Çubuk district, Karagöl 29.V.2003; 2♀♀, Ankara province, Kızılcahamam district, Güvem 10.VII.2003; 2♂♂, Ankara province, Çubuk district, Kışlacık village, 16.VII.2003; 1♀, Çankırı province, Çerkeş district, 27.VII.2005; 1♀, Konya province, Yunak district, Beş ışıklı village, 13.V.2005; 2♂♂, 3♀♀, Konya province, Doğanhisar district, 14.V.2005; 1♀, Yozgat province, Akdağmadeni district, 20.VII.2005.

Description (Fig. 6): Male: Total length 4.7, female: 5.7. Prosoma dark brown with distinct median stripes with white hairs, no lateral pattern. Opisthosoma brown with light brown median stripe. Palp dark brown to almost black. Cymbium narrow dorso-ventrally. Terminal apophysis a rectangular plate curved almost at right angle. Anterior rim of epigynal atrium with distinct projection. Anterior median septum glass-ilke.

World distribution: Europe.



Fig. 6: *Pardosa saltans* Töpfer-Hofmann, 2000. **o.** Habitus of female **p.** Male palp, lateral view. **q.** Epigyne **r.** Vulva. Scale lines = 1.0 mm

Pirata insularis Emerton, 1885

Material examined: 1♂, Turkey, Yozgat province, Yenifakılı district, 24.VI.2005.

Description: Male (Fig. 7): Total length 4.0. Prosoma yellowish brown. Opisthosoma greyish brown with white median line. Legs yellowish brown. Palp with brown cymbium. Tegular apophysis large, sickle-shaped and with tooth basally. Embolus terminating close.

World distribution: Holarctic.



Fig. 7: *Pirata insularis* Emerton, 1885. **s.** Habitus of male **t.** Palp, ventral view. Scale lines = 1.0 mm

Table 1. Examined specimens of family Lycosidae.

GENERA	SPECIES	♀	♂
<i>Arctosa</i> C.L. Koch, 1847	<i>Arctosa maculata</i> (Hahn, 1822)	3	-
	<i>Arctosa stigmosa</i> (Thorell, 1875)	1	-
<i>Pardosa</i> C.L. Koch, 1847	<i>Pardosa aenigmatica</i> Tongiorgi, 1966	2	-
	<i>Pardosa blanda</i> (C.L. Koch, 1833)	3	-
	<i>Pardosa mixta</i> (Kulczyński, 1887)	1	-
	<i>Pardosa saltans</i> Töpfer-Hofmann, 2000	14	7
<i>Pirata</i> Sundevall, 1833	<i>Pirata insularis</i> Emerton, 1885	-	1

Conclusion

In this study, 7 species belong to 3 genera from the family Lycosidae were identified (Table 1) and the number of species belonging to family Lycosidae in Turkey has been increased from 63 to 70. Lycosid species in Turkey is expected to increase along with detailed studies. Thus, important contributions to Turkey's biological wealth are necessary.

References

- Heimer, S. & Nentwig, W. 1991. *Spinnen Mitteleuropas: Ein Bestimmungsbuch*. Verlag Paul Parey, Berlin, 543 pp.
- Locket, G.H. & Millidge, A.F. 1951. *British Spiders*. Ray Society, London, I: 1-310.
- Platnick, N.I. 2011. The world spider catalog, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.
- Roberts, M.J. 1995. *Collins Field Guide: Spiders of Britain & Northern Europe*. HarperCollins, London, 383 pp.
- Simon, E. 1937. *Les arachnides de France. Tome VI. Synopsis générale et catalogue des espèces françaises de l'ordre des Araneae; 5e et dernière partie*. Paris, 6: 979-1298.
- Topçu, A., Demir, H. & Seyyar, O. 2005. A Checklist of the spiders of Turkey. *Serket*, 9(4): 109–140.
- Tyschchenko, V.P. 1971. *Opredelitel' paukov evropejskoj casti SSSR. (Identification Key to Spiders of the European USSR)*, Leningrad, pp. 1-281.

Serket (2011) vol. 12(4): 141-143.

A new linyphiid spider record from Turkey (Araneae: Linyphiidae)

Tarık Danişman, Zafer Sancak, İlhan Coşar & Melek Erdek
Department of Biology, Faculty of Science and Arts, University of Kırıkkale,
71450 Yahşihan, Kırıkkale, Turkey
Corresponding e-mail address: tarikdanisman@yahoo.com.tr

Abstract

This short paper reports one linyphiid species as a new record for the Turkish araneo-fauna. The characteristic features and photographs of *Diplocephalus crassilobus* (Simon, 1884) are presented. The total number of linyphiid species recorded from Turkey is now 90.

Keywords: Araneae, Linyphiidae, Taxonomy, New record, Turkey.

Introduction

A total of 4401 species in 586 genera have been identified in the family Linyphiidae all over the world (Platnick, 2012). Genus *Diplocephalus* Bertkau, 1883 is well studied in the Palaearctic, Oriental and Australian regions. Hitherto, 5 species have been known from Turkey (Bayram *et al.*, 2010). These species are *D. caucasicus* Tanasevitch, 1987, *D. cristatus* (Blackwall, 1833), *D. latifrons* (O.P.-Cambridge, 1863), *D. picinus* (Blackwall, 1841) and *D. turcicus* Brignoli, 1972.

This paper presents the characteristic features and distribution of *Diplocephalus crassilobus* (Simon, 1884) adding a new species to the araneo-fauna of Turkey.

Material and Methods

The present study is based on the material deposited in the collection of the Arachnological Museum of Kırıkkale University (KUAM). One male specimen was examined in this study. The specimen was preserved in 70% ethanol. Pictures were taken using a Leica S8APO microscope by means of the Leica DC 160 camera. Identification depended on the descriptions and figures of Millidge (1979) and Gnelitsa (2006). All measurements are in millimetres.

Results

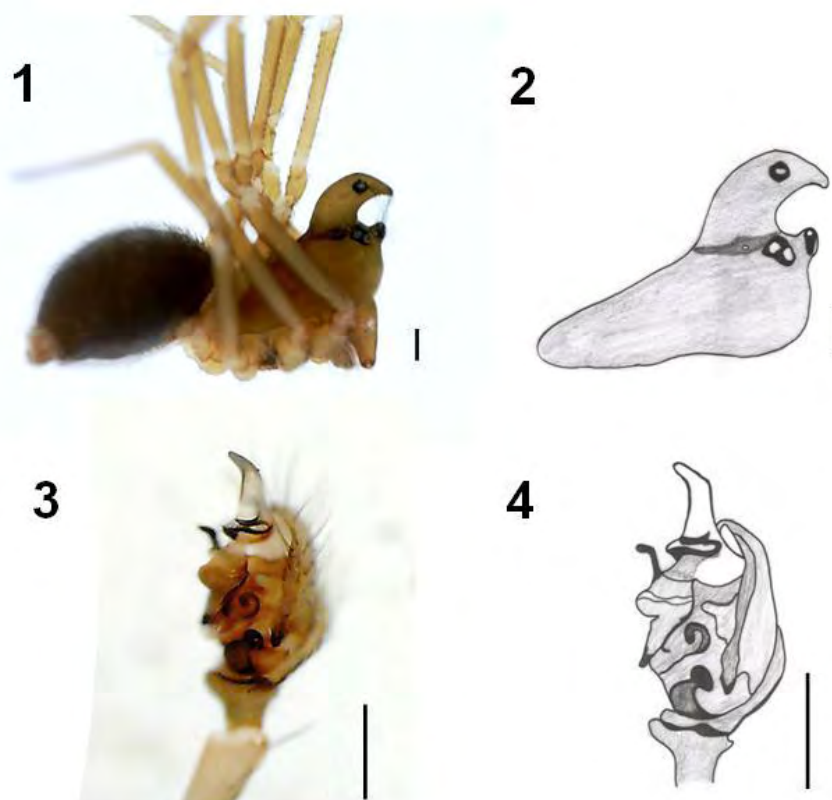
Diplocephalus crassilobus (Simon, 1884) (Figs. 1-4)

Material examined: 1♂, Amasra, Bartın, (41°43'N, 32°22'E), from a garden, 11.09.2011; (KUAM-LIN.Dip.cras.01).

Description of male

Body length: 2.05, Prosoma: length 1.0, width 0.7. Opisthosoma: length 1.05, width 0.75. Prosoma is yellowish brown and its shape in lateral view as in Figs. (1-2). Male carapace with cephalic pits. Opisthosoma is dark grey. Legs are grey-white to yellowish. Male palpal tibia with a long curved apical apophysis. In the male pedipalp, shape of the distal piece of the anterior radical process is characteristic and its ventral tooth is sharply pointed (Figs. 3-4, 5). Leg formula: IV-I-II-III (Table 1).

Distribution: Europe (Platnick, 2011).



Figs. 1-4: *Diplocephalus crassilobus* (Simon, 1884) ♂.

1-2. Habitus, lateral view. 3-4. Pedipalp, retrolateral view. (Scale lines = 0.1 mm)

Table 1. Measurements of the legs of *Diplocephalus crassilobus* (Simon, 1884) male

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.70	0.125	0.60	0.60	0.50	2.52
II	0.65	0.125	0.55	0.55	0.45	2.32
III	0.55	0.100	0.50	0.35	0.45	1.95
IV	0.80	0.125	0.80	0.60	0.30	2.62

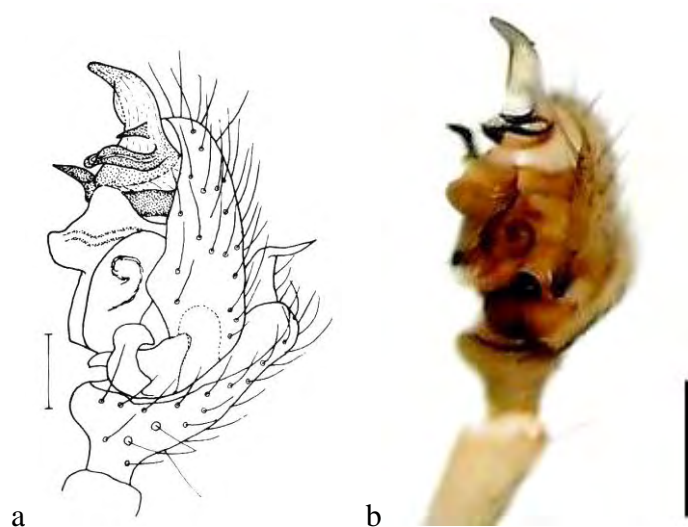


Fig. 5. *Diplocephalus crassilobus* (Simon, 1884) ♂ palp.
Comparison between a. Millidge (1979), fig. 55 and b. the Turkish specimen.

References

- Bayram, A., Kunt, K.B. & Danişman, T. 2010. The Checklist of the Spiders of Turkey (Araneae; Arachnida), version 10.1.0, online at <http://www.spidersofturkey.com/home.php>
- Gnelitsa, V.A. 2006. A new species of the genus *Diplocephalus* Bertkau, 1883 (Aranei: Linyphiidae) from the Crimea. *Arthropoda Selecta*, 14(4): 373-376.
- Millidge, A.F. 1979. Some erigonine spiders from southern Europe. *Bull. Br. arachnol. Soc.*, 4(7): 316-328.
- Platnick, N.I. 2011. The world spider catalog, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.

The cobweb spiders (Araneae, Theridiidae) of Uludağ mountain, Bursa

Rahşen S. Kaya & İsmail Hakkı Uğurtaş

Department of Biology, Faculty of Science and Art, Uludağ University,
TR-16059 Nilüfer, Bursa, Turkey

Corresponding e-mail address: rkaya@uludag.edu.tr, rahsens@gmail.com

Abstract

The cobweb spiders, Theridiidae, were collected from 57 different localities between 2002 and 2007 from the Uludağ Mountain, Turkey. A total of 355 adult specimens were examined and identified to species level. The family is represented by 12 species belonging to 6 genera in the study area. The Holarctic species are dominant among the Theridiids of this fauna.

Keywords: Araneae, Theridiidae, Uludağ Mountain, Turkey.

Introduction

The spider family Theridiidae, also known as cobweb or comb-footed spiders, is one of the most species-rich families of spiders, with 2324 species in 119 genera (Platnick, 2011). This family is represented in Turkey by 64 species in 23 genera (Bayram *et al.*, 2010). Members of the family have great variation in shape and colouration, the majority has an abdominal pattern, but some are uniformly greyish or black.

The first list of spiders of Turkey, a list of 302 species, was published by Karol (1967) and later supplemented by Bayram (2002). Recently, Topçu *et al.* (2005) published an updated checklist of spiders in Turkey. Now, the total number of species of Araneae in Turkey is 717, belonging to 247 genera and 47 family (Bayram *et al.*, 2010). The spider fauna of the Uludağ Mountain region has not been known in detail. Scattered data about the spiders of Uludağ Mountain can be found in papers of Kulczyński (1903) and Karol (1967). The authors have been studying the spider fauna of this region in recent years. Because of the geographical and zoogeographical features of the mountain, this region has great significance. To date, some new faunistical studies about the spiders of Uludağ Mountain can be found in the papers of Kaya & Uğurtaş (2008), Yılmaz *et al.* (2009) and Uyar *et al.* (2010).

Results

In this study, cobweb spiders were collected between 2002 and 2007 from Uludağ Mountain. A total of 12 theridiid spider species in 6 genera were identified.

Family **Theridiidae** Sundevall, 1833

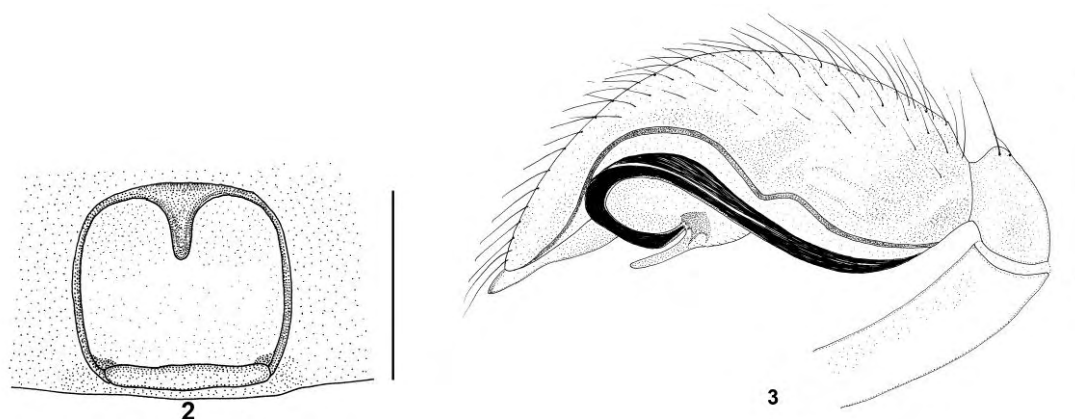
Genus *Asagena* Sundevall, 1833

Asagena phalerata (Panzer, 1801) (Figs. 2-3)

Specimens examined: Soğukpınar, 03.06.2002, 1♂; Aras Valley, 06.06.2002, 2♀♀; Sarıalan, 16.07.2003, 4♀♀; Kadiyayla, 27.06.2004, 2♀♀; Sarıalan, 27.06.2004, 1♀; Gökçeören, 13.05.2005, 1♀; around Kaplıkaya Stream, 30.07.2005, 2♀♀, 1♂; Kaplıkaya Valley, 25.09.2005, 1♀; Osmaniye, 03.06.2006, 2♀♀; Aras Valley, 09.07.2006, 3♀♀; Kadiyayla, 12.07.2006, 2♀♀; Kaplıkaya Valley, 15.06.2007, 1♀.

Description: Total body length 5.5-6 mm in females and 5 mm in males. Carapace and sternum dark reddish brown with wrinkles and granulations. Abdomen shiny black, dorsum with two pairs of white horizontal markings and reddish dots, venter dark brown. Legs light brown. Epigynal plate almost circular, anterior margin with a projection. Male palp: terminal apophysis like beak of bird, embolus long.

World Distribution: Palaearctic (Platnick, 2011).



Figs. 2-3. *Asagena phalerata* (Panzer, 1801)

2. Epigynum, ventral view. 3. Male palp, retrolateral view. Scale bars: 0.5 mm

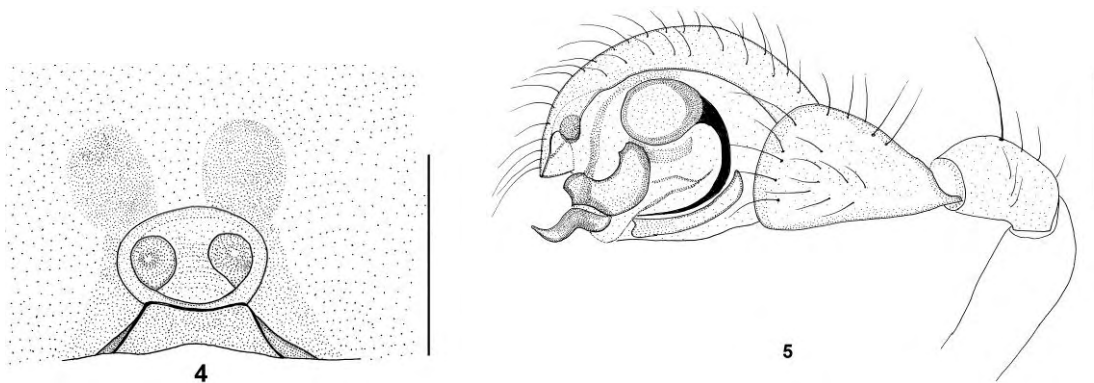
Genus *Enoplognatha* Pavesi, 1880

Enoplognatha latimana Hippa & Oksala, 1982 (Figs. 4-5)

Specimens examined: Orhaneli-Keles crossroads 19. km, 06.05.2004, 1♀; Göynükbelen, 09.05.2005, 1♀; Gökçeören, 13.05.2005, 3♀♀, 1♂; Kirazlı, 15.06.2005, 3♀♀; Hüseyinalan, 14.05.2006, 1♀; Mürseller, 19.05.2006, 3♀♀; Sayfiye, 20.06.2006, 1♀; Alaçam, 28.06.2006, 3♀♀, 2♂♂; 13.07.2006, 2♂♂; Cumalıkızık, 12.04.2007, 1♀; Gelemiş, 20.06.2007, 2♂♂.

Description: Total body length 5.5-6.5 mm in females and 5-6 mm in males. Carapace light brown, marginal line black. Sternum pale yellow with small central and lateral lines. Abdomen yellow or white with 4-5 mid-dorsal pairs of black spots. Legs white. Posterior margin of epigynum strongly sclerotized. Male palp: conductor hook-shaped and its tip directed upwards, embolus strongly arched.

World Distribution: Holarctic (Platnick, 2011).



Figs. 4-5. *Enoplognatha latimana* Hippa & Oksala, 1982

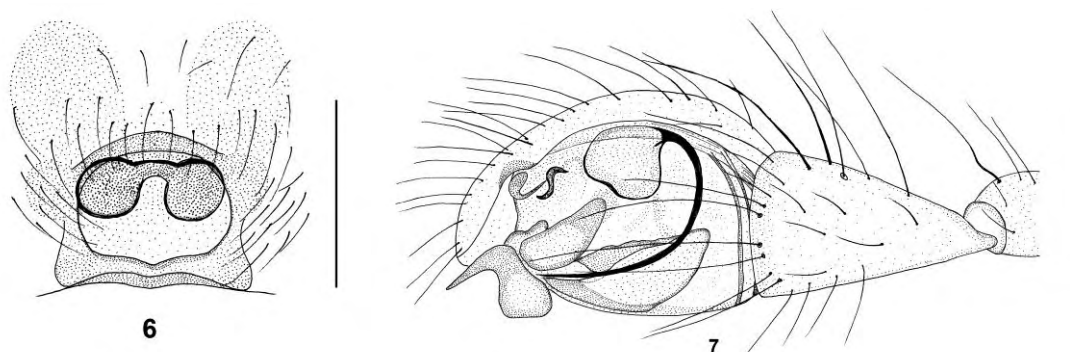
4. Epigynum, ventral view. 5. Male palp, retrolateral view. Scale bars: 0.25 mm

***Enoplognatha ovata* (Clerck, 1757) (Figs. 6-7)**

Specimens examined: Göynükbelen, 09.05.2005, 1♂; Gökçeören, 13.05.2005, 2♀♀, 1♂; Mürseller, 15.06.2005, 1♂; Küçükdeliller, 18.06.2005, 1♀; İnayet, 25.06.2005, 2♀♀, 1♂; Gökçeören, 19.05.2006, 1♀, 1♂; İnegöl-Maden, 27.08.2006, 2♀♀; Alaçam, 26.09.2006, 2♀♀, 3♂; Kozluören, 26.10.2006, 2♀♀, 1♂.

Description: Total body length 5.5-6.5 mm in females and 5-5.5 mm in males. Carapace yellowish brown, marginal line black. Sternum pale yellow with black narrow central and lateral lines. Abdomen yellow or white with 6 mid-dorsal pairs of black spots. Legs yellow. Posterior margin of epigynum not strongly sclerotized. Male palp: conductor hook-shaped and its tip directed downwards, embolus strongly arched.

World Distribution: Holarctic (Platnick, 2011).



Figs. 6-7. *Enoplognatha ovata* (Clerck, 1757)

6. Epigynum, ventral view. 7. Male palp, retrolateral view. Scale bars: 0.5 mm

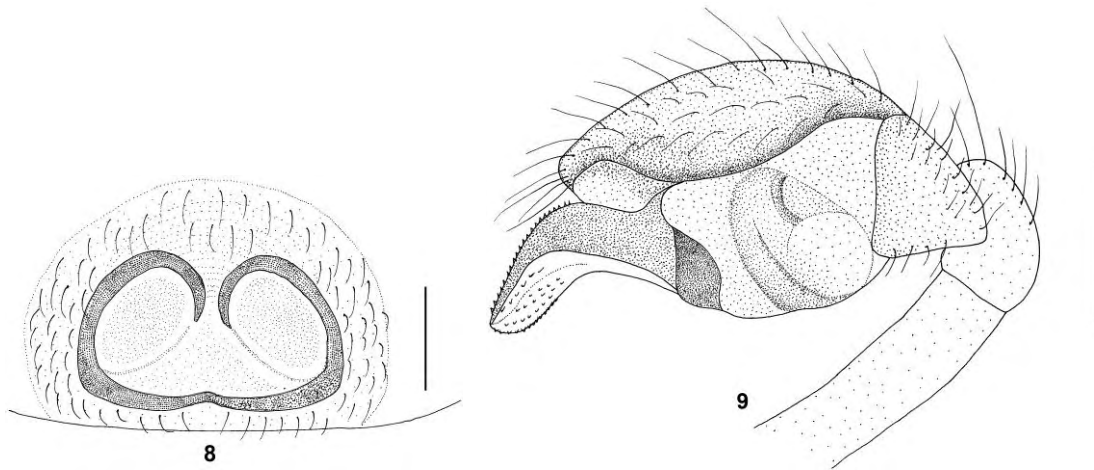
Genus *Parasteatoda* Archer, 1946

***Parasteatoda lunata* (Clerck, 1757) (Figs. 8-9)**

Specimens examined: around Yiğitalı, 14.05.2006, 3♀♀; Sayfiye, 16.07.2006, 2♀♀; Kozluören, 16.07.2006, 3♀♀; 2 ♂♂; Cumalıkızık, 12.04.2007, 4♀♀; 2 ♂♂; entrance of Oylat Cave, 01.07.2007, 3♀♀; Derekızık, 21.07.2007, 5♀♀; 2 ♂♂.

Description: Total body length 3-4 mm in females and 2.5-3 mm in males. Carapace reddish-brown, cephalic region higher, carapace darker than sternum. Abdomen colourful and higher than long. Legs yellowish and annulated with black. Epigynum with circular opening, anterior margin with a small tip pointing posteriorly. Male palp: conductor big and twisted, embolus long and thin.

World Distribution: Palaearctic (Platnick, 2011).



Figs. 8-9. *Parasteatoda lunata* (Clerck, 1757)

8. Epigynum, ventral view. 9. Male palp, retrolateral view. Scale bars: 0.1 mm

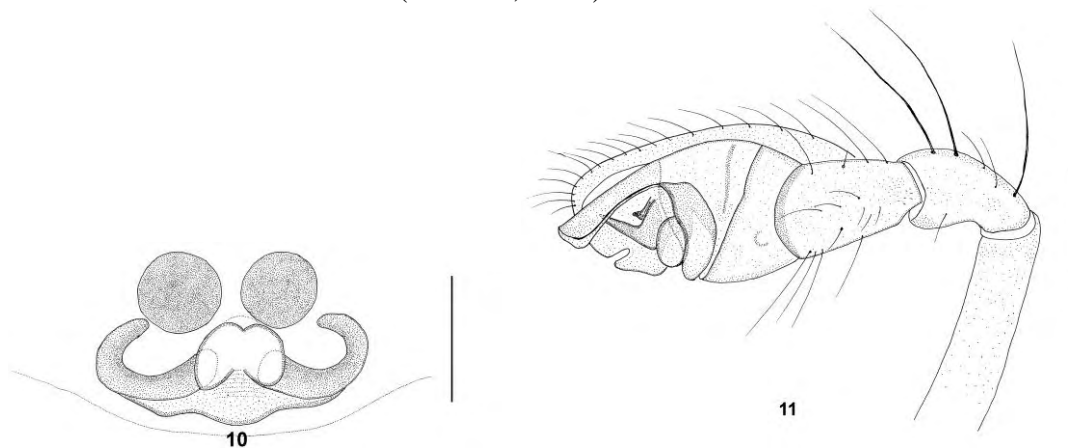
Genus *Phylloneta* Archer, 1950

Phylloneta impressa (L. Koch, 1881) (Figs. 10-11)

Specimens examined: Tuzaklı, 13.05.2005, 1♀, 1♂; Kirazlı, 15.06.2005, 2♀♀, Fevziye, 25.06.2005, 2♀♀, 1♂; Oylat, 28.06.2005, 1♀; between Sorgun and Boğazova, 23.04.2006, 1♀; Osmaneli, 03.06.2006, 1♀; Kozluören, 20.06.2006, 2♀♀; İnegöl-Akıncılar, 16.07.2006, 3♀♀, 1♂; Keles-Bıyıklıalan, 18.07.2006, 2♀♀, 1♂; Gelemiş, 18.07.2006, 3♀♀; Kıran-Çiftlik crossroads, 22.08.2006, 1♀; Alaçam to Sayfiye, 2-3 km, 26.08.2006, 4♀♀, 1♂; Alaçam, 26.10.2006, 1♀; Sule, 20.06.2007, 4♀♀, 2♂♂; Fevziye, 20.06.2007, 3♀♀, 1♂; Alaçam, 21.07.2007, 3♀♀.

Description: Total body length 4-5.5 mm in females and 3-3.5 mm in males. Carapace reddish brown, central and lateral lines darker. Sternum brown, darker in laterally. Abdomen whitish, dorsum with dark markings, venter dark brown with some dark spots. Legs yellowish with dark annulations. Epigynum broader than long and has paired funnel like openings. Male palp: median apophysis small, conductor big and apically broad, embolus fine arched.

World Distribution: Holarctic (Platnick, 2011).



Figs. 10-11. *Phylloneta impressa* (L. Koch, 1881)

10. Epigynum, ventral view. 11. Male palp, retrolateral view. Scale bars: 0.25 mm

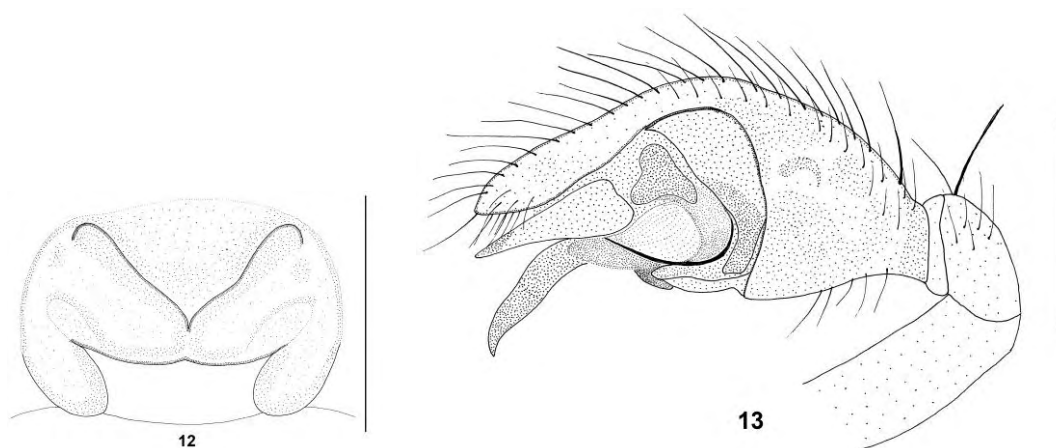
Genus *Steatoda* Sundevall, 1833

Steatoda albomaculata (De Geer, 1778) (Figs. 12-13)

Specimens examined: around Volfram, 08.07.2006, 3♀♀; Kestel, Osmaniye, 24.08.2006, 1♂; Gözede, 24.08.2006, 2♀♀; Alaçam, 26.10.2006, 2♀♀.

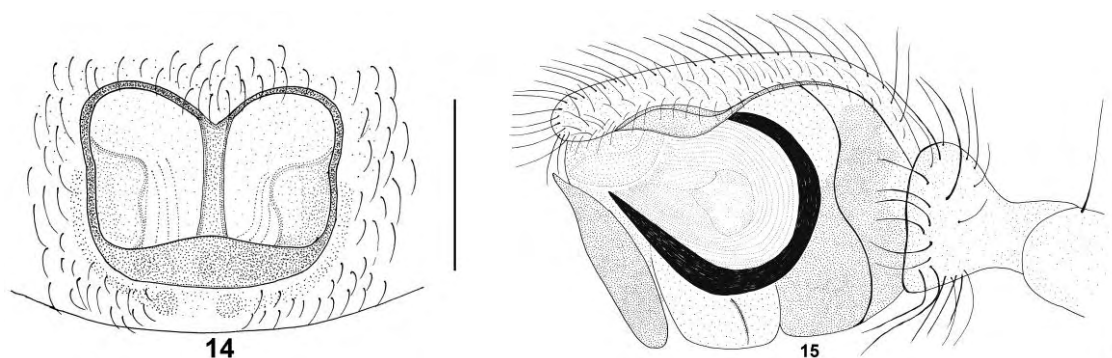
Description: Total body length 5.5-6 mm in females and 3.5 mm in male. Carapace and sternum brown to black, without granulations. Abdomen brownish black, dorsum with a series of white median spots and lateral lines, venter black with white markings. Legs yellowish brown with dark annulations. Epigynal plate and groove large, transverse band broad. Endites of males with distinct protuberances. Male palp: median apophysis strongly angulate and pointing finger-like away from the bulbus.

World Distribution: Cosmopolitan (Platnick, 2011).



Figs. 12-13. *Steatoda albomaculata* (De Geer, 1778)

12. Epigynum, ventral view. 13. Male palp, retrolateral view. Scale bars: 0.4 mm



Figs. 14-15. *Steatoda bipunctata* (Linnaeus, 1758)

14. Epigynum, ventral view. 15. Male palp, ventral view. Scale bars: 0.5 mm

Steatoda bipunctata (Linnaeus, 1758) (Figs. 14-15)

Specimens examined: Soğukpınar, 03.06.2002, 2♀♀; around Soğukpınar, 05.06.2003, 5♀♀; Kirazlı, Leylek Stone, 21.07.2003, 2♀♀, 1♂; Kadiyayla, 27.06.2004, 1♂; Bakacak, 27.06.2004, 2♀♀, 1♂; Gökçeören, 13.05.2005, 2♀♀; Kirazlıyayla, 19.05.2005, 7♀♀; Mürseller, 15.06.2005, 2♀♀, 3♂♂; around Oylat cave, 28.06.2005, 3♀♀, 1♂; Soğukpınar, Ketenlik, 12.08.2005, 1♀; Alaçam, 01.10.2005, 3♀♀; İnkaya, 13.04.2006, 2♀♀; Soğukpınar, 19.05.2006, 3♀♀, 2♂♂; Karasılah-Soğukpınar crossroads, 19.05.2006, 4♀♀, 1♂; Sarıalan, 26.06.2006, 1♀; Kıran-Çiftlik, 22.08.2006, 4♀♀; Alaçam, 26.10.2006, 1♀; Harmanalan 13 km, 08.03.2007, 1♀.

Description: Total body length 5-6.5 mm in females and 4.5-5 mm in males. Carapace and sternum shiny brown to black with some lines and spots. Abdomen brownish black, dorsum with white lateral lines, venter black. Legs dark brown with some dark annulations. Epigynal plate square shaped and pointing posteriorly. Male palp: median apophysis and embolus big and thick.

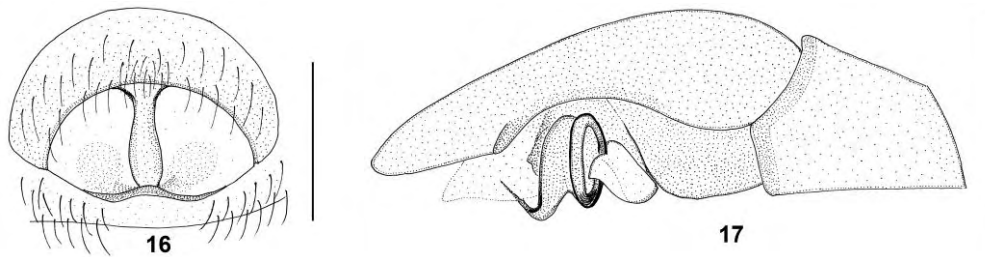
World Distribution: Holarctic (Platnick, 2011).

Steatoda grossa (C.L. Koch, 1838) (Figs. 16-17)

Specimens examined: Kuşaklıkaya, 12.06.2004, 1♀; İnayet, 25.06.2005, 2♀♀; Oylat, 28.06.2005, 1♀; Tahtaköprü, 28.06.2005, 1♀; Kaplıkaya Valley, 30.07.2005, 2♀♀; Alaçam, 23.10.2005, 3♀♀; Soğukpınar, 19.05.2006, 1♀; İnegöl-Çayyaka, 5 km, 23.08.2006, 3♀♀; Kıran, 24.08.2006, 1♀; Alaçam, 26.09.2006, 2♀♀; between Dedeler-Firuzköy, 08.03.2007, 3♀♀, 1♂; before Dedeler-Orhaneli 3 km, 08.03.2007, 2♂♂; Keles-Dedeler, 08.03.2007, 4♀♀, 1♂.

Description: Total body length 8-9 mm in females and 6-6.5 mm in males. Carapace dark brown. Sternum yellowish brown. Abdomen purplish black, dorsum with white central triangles and white lateral lines, venter black with some light spots posteriorly. Legs brown. Epigynal plate round, epigynum with slender septum. Male palp: median apophysis small and hooked, embolus spiral shaped.

World Distribution: Cosmopolitan (Platnick, 2011).



Figs. 16-17. *Steatoda grossa* (C.L. Koch, 1838)

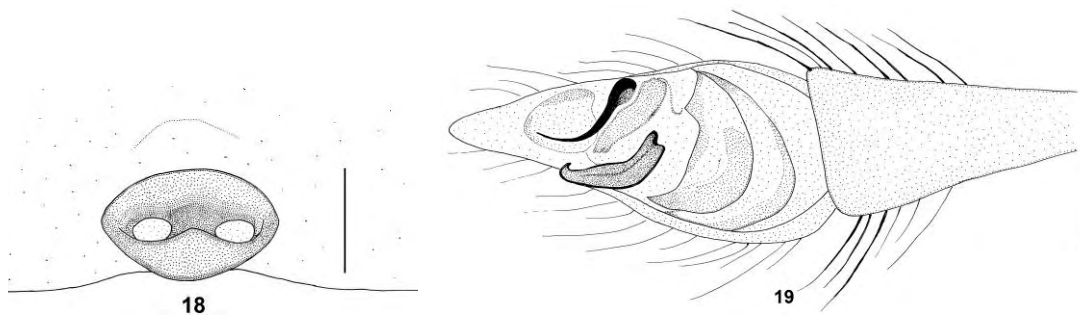
16. Epigynum, ventral view. 17. Male palp, lateral view. Scale bars: 0.5 mm

Steatoda paykulliana (Walckenaer, 1805) (Figs. 18-19)

Specimens examined: Orhaneli to Harmancık, 2 km, 20.05.2002, 3♀♀; Orhaneli to Harmancık, 6 km, 20.05.2002, 2♀♀; Tuzaklı crossroads, 06.06.2002, 3♀♀, 1♂; Keles-Kocayayla, 07.07.2003, 2♀♀; Kocayayla to Boğazova, 07.07.2003, 4♀♀; Bakacak, 16.07.2003, 1♀; Kadiyayla, 27.06.2004, 1♀; Sarıalan, 27.06.2004, 2♀♀; Seferişıklar-Göynükbelen crossroads, 09.05.2005, 2♀♀; Gökçeören, 13.05.2005, 1♀; Kirazlı, 15.06.2005, 4♀♀, 1♂; İnayet, 25.06.2005, 2♀♀, 2♂♂; Epçeler, 18.06.2005, 2♀♀; Kadiyayla, 31.07.2005, 4♀♀, 1♂; Kestel, 20.10.2005, 1♂; İnkaya, 13.04.2006, 2♀♀; Hüseyinalan, 14.05.2006, 3♀♀; Gökçeören, 19.05.2006, 2♀♀; Harmanalan, 13 km, 08.03.2007, 1♀; Pınarcık, 23.06.2006, 2♀♀; Dağdibi, 23.06.2006, 1♀; Yiğitalı, 23.04.2007, 1♀; Firuzköy, 18.06.2007, 4♀♀, 2♂♂; Dağgüney, 18.06.2007, 4♀♀; Fevziye, 20.06.2007, 1♀; Çayyaka, 20.06.2007, 1♀, 2♂♂.

Description: Total body length 9-13 mm in females and 6-7 mm in males. Carapace and sternum dark brown to black, without granulations. Abdomen shiny black, encircled in front, dorsum with white central markings and white lateral lines, venter black with some light spots. Legs light brown with dark annulations. Epigynal plate rectangular, posterior projection strongly sclerotized. Male palp: median apophysis short and its tip hook-shaped, embolus extending above median apophysis.

World Distribution: Europe, Mediterranean to Central Asia (Platnick, 2011).



Figs. 18-19. *Steatoda paykulliana* (Walckenaer, 1805)

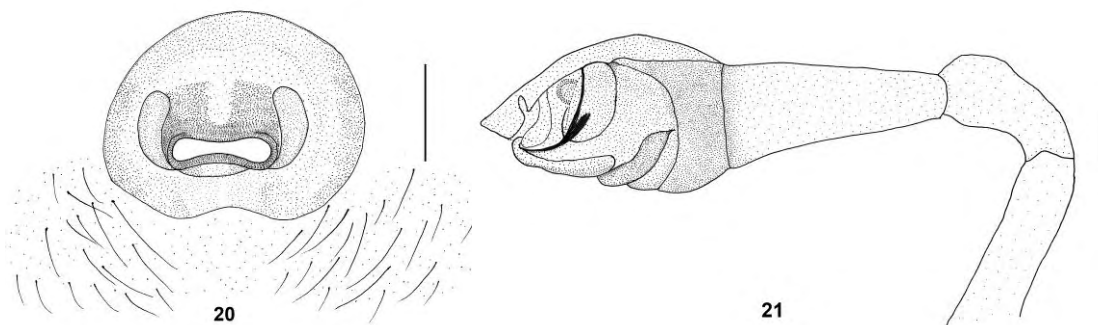
18. Epigynum, ventral view. 19. Male palp, ventral view. Scale bars: 0.2 mm

Steatoda triangulosa (Walckenaer, 1802) (Figs. 20-21)

Specimens examined: Kirazlı, 21.07.2003, 1♀; Alaçam, 01.10.2005, 2♀♀; Alaçam, 25.06.2006, 1♀, 2♂♂; Alaçam, 28.06.2006, 1♂.

Description: Total body length 5.5-7 mm in females and 3-4 mm in males. Carapace and sternum shiny brown without granulations in females and with some granulations in males. Abdomen shiny black, dorsum with white triangular markings and white lateral lines, venter black with some light spots posteriorly. Legs yellowish brown with dark annulations. Epigynal plate with narrow openings. Male palp very slender, median apophysis with s-shaped tip, embolus short.

World Distribution: Cosmopolitan (Platnick, 2011).



Figs. 20-21. *Steatoda triangulosa* (Walckenaer, 1802)

20. Epigynum, ventral view. 21. Male palp, lateral view. Scale bars: 0.1 mm

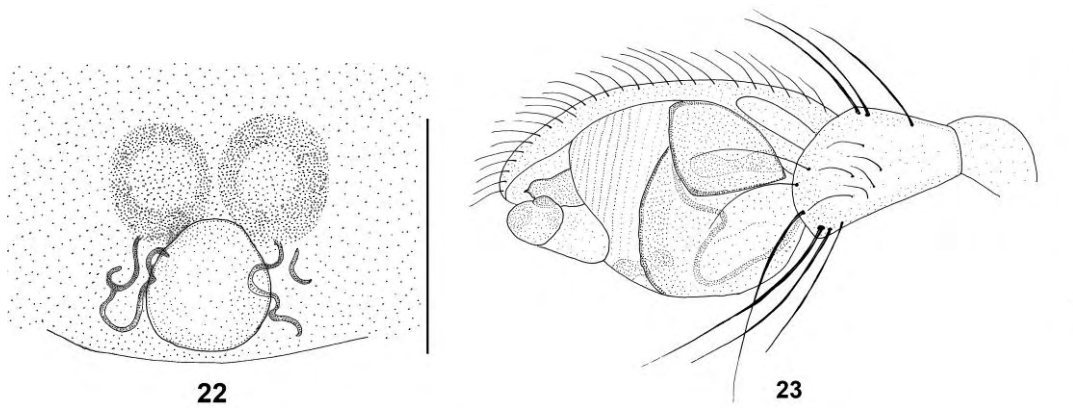
Genus *Theridion* Walckenaer, 1805

Theridion mystaceum L. Koch, 1870 (Figs. 22-23)

Specimens examined: Kaplıkaya Valley, 25.06.2004, 2♀♀; Kadiyayla, 31.07.2005, 1♀, 1♂; Sarıalan, 05.08.2005, 1♀; Kozluören, 20.06.2006, 1♀, 1♂; Sayfiye Köyü, 20.06.2006, 1♂; Babasultan, 20.06.2006, 2♀♀, 1♂; Alaçam, 25.06.2006, 3♀♀; Gökçeören, 30.06.2006, 4♀♀; Sorgun, 10.07.2006, 3♀♀, 1♂; Akıncılar, 16.07.2006, 3♀♀; Gelemiş, 18.07.2006, 1♀; Alaçam, 30.06.2007, 3♀♀.

Description: Total body length 2-2.5 mm in females and 1.5-2 mm in males. Carapace brown with dark margins. Sternum brown. Abdomen grey to black with central light stripe, venter dark brown with white spot behind epigastric furrow. Legs yellowish with dark annulations. Epigynal opening circular shaped, ducts visible. Male palp: conductor with small projecting tip, embolus short.

World Distribution: Palearctic (Platnick, 2011).



Figs. 22-23. *Theridion mystaceum* L. Koch, 1870

22. Epigynum, ventral view. 23. Male palp, retrolateral view. Scale bars: 0.25 mm

***Theridion varians* Hahn, 1833 (Fig.24)**

Specimens examined: Tuzaklı crossroads, 06.06.2002, 1♀; Gökçeören, 13.05.2005, 2♀♀; Tuzaklı, 13.05.2005, 1♀; Kirazlı, 15.06.2005, 2♀♀; Fevziye, 25.06.2005, 1♀; Oylat, 28.06.2005, 2♀♀; Alaçam, 01.10.2005, 1♀; Kozluören, 20.06.2006, 2♀♀; Sayfiye, 20.06.2006, 1♀; İnegöl-Yenice, 16.07.2006, 1♀; Bıyıklıalan, 18.07.2006, 2♀♀; Gelemiş, 18.07.2006, 1♀; Alaçam, 26.08.2006, 3♀♀; Alaçam, 26.10.2006, 1♀; between Kozluören and Babasultan, 26.10.2006, 1♀; Alaçam, 02.06.2007, 4♀♀.

Description: Total body length 3-3.5 mm in females. Carapace pale brown with dark median band. Sternum white, laterally darker. Abdomen reddish brown with dark dorso-median stripe. Legs whitish with dark annulations. Epigynal opening longer than wide and apple-shaped.

World Distribution: Holarctic (Platnick, 2011).

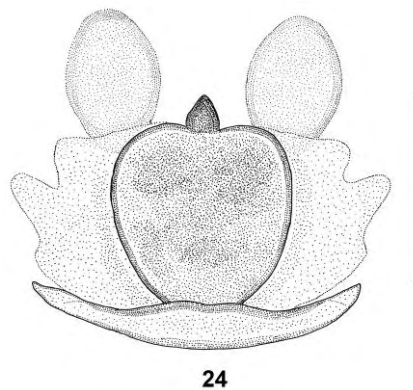


Fig. 24. *Theridion varians* Hahn, 1833

24. Epigynum, ventral view. Scale bar: 0.25 mm

Acknowledgment

We would like to thank Dr. Ruziye Daşkin (Uludağ University) for her help in the field studies.

References

Akman, Y. 1990. *İklim ve Biyoiklim*. Palme Yayınları. Ankara.

- Bayram, A. 2002. Distributions of Turkish Spiders. In: *Zoogeography of Turkey*. Demirsoy, A., Ed. Meteksan. Ankara. 1005 pp.
- Bayram, A., Kunt, K.B. & Danışman, T. 2010. The Checklist of the Spiders of Turkey. Version 10.1.0. Online at <http://www.spidersofturkey.com>
- Daşkın, R. & Kaynak, G. 2010. Vascular Flora of Uludağ Mt (Bursa, Turkey)-I. *Phytologia Balcanica*, 16(3): 367-381.
- Güteryüz, G. 2000. *Uludağ Alpin Çiçekleri*. Bursa Valiliği İl Turizm Müdürlüğü. Bursa.
- Heimer, S. & Nentwig, W. 1991. *Spinnen Mitteleuropas: Ein Bestimmungsbuch*. Verlag Paul Parey, Berlin, 543 pp.
- Karol, S. 1967. *Türkiye Örümcekleri I. Ön Liste*. Ankara Üniversitesi Fen Fakültesi Yayınları. Ankara.
- Kaya, R.S. & Uğurtaş, İ.H. 2008. The orb-weaver spiders (Araneae, Araneidae) of Uludağ Mountain, Bursa. *Turkish Journal of Arachnology*, 1(2): 160-165.
- Kulczyński, W. 1903. Arachnoidea in Asia Minore et ad Constantinopolim a Dre F. Werner collecta. *Sitz.-ber. Akad. Wiss. Wien.*, 112: 627-680.
- Levy, G. 1998. Araneae: Theridiidae. In *Fauna Palaestina, Arachnida III*. Israel Academy of Sciences and Humanities, Jerusalem.
- Levy, G. & Amitai, P. 1982. The cobweb spider genus *Steatoda* (Araneae, Theridiidae) of Israel and Sinai. *Zoologica Scripta*, 11: 13-30.
- Nentwig, W., Hänggi, A., Kropf, C. & Blick, T. 2003. Spinnen Mitteleuropas/Central European Spiders. An internet identification key. <http://www.araneae.unibe.ch> Version 8.12.2003.
- Platnick, N.I. 2011. The world spider catalog, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.
- Roberts, M.J. 1995. *Collins Field Guide: Spiders of Britain & Northern Europe*. HarperCollins, London, 383 pp.
- Topçu, A., Demir, H. & Seyyar, O. 2005. A Checklist of the spiders of Turkey. *Serket*, 9(4): 109-140.
- Uyar, Z., Kaya, R.S. & Uğurtaş, İ.H. 2010. Systematics of the philodromid spider fauna of Uludağ Mountain region (Araneae: Philodromidae) with a review of the Philodromidae in Turkey. *Serket*, 12(2): 47-60.
- Yılmaz, Z., Uğurtaş, İ.H. & Kaya, R.S. 2009. The crab spiders (Araneae, Thomisidae) of Uludağ Mountain. *Journal of Biological & Environmental Sciences*, 3(7): 11-16.

The spider fauna of islands of Lake Uluabat, Turkey

Rahşen S. Kaya¹, İsmail Hakkı Uğurtaş¹ Kadir Boğaç Kunt² &
Abdülmuttalip Akkaya¹

¹ Department of Biology, Faculty of Science and Art, Uludağ University,
TR-16059, Nilüfer, Bursa, Turkey

² Poligon Sitesi, 71/27-B, TR-06810, Dodurga, Çayyolu, Ankara, Turkey

Corresponding e-mail address: rkaya@uludag.edu.tr, rahsens@gmail.com

Abstract

The survey of the spider fauna of islands of Lake Uluabat (Bursa), western part of Turkey, was conducted during the years 2003-2005. A total of 64 spider species belonging to 54 genera and 25 families were collected. The fauna showed that Palaearctic species are dominant.

Keywords: Araneae, Island fauna, Uluabat Lake, Turkey.

Introduction

Lake Uluabat is located in Bursa, North-western part of Turkey, lying east to west, south of the Marmara Sea. The length of the lake from east to west is approximately 15 km. Lake Uluabat is one of the most important area for wetlands of Turkey. There are 8 major islands located in the Lake Uluabat (Fig. 1). The land of the islands is mainly composed of grasslands, rocky habitats and large farming areas (cultivated olives) also available. The coastal region of the islands is covered with reeds.

The spiders of the world comprise 42473 described species (Platnick, 2011), of which about 717 spider species are known in Turkey (Topçu *et al.*, 2005, Bayram *et al.*, 2010). Despite the huge increase in the studies on Turkish spiders during recent years, there are still many regions of the country that remain poorly studied. However, some spider records from Lake Uluabat can be found in the paper of Kaya & Uğurtaş (2007). The purpose of this study is to make contribution to the spider diversity of Turkey.

Material and Methods

The specimens were collected from the islands of Lake Uluabat in the spring and summer months of 2003-2005. The collection was performed by hand aspirator, sweeping net, and beating bushes and trees. The specimens were preserved in 5% glycerin alcohol and deposited in the Zoology Museum of Department of Biology, Uludağ University,

Bursa, Turkey. The taxonomy and general distribution of all species follows Platnick (2011).

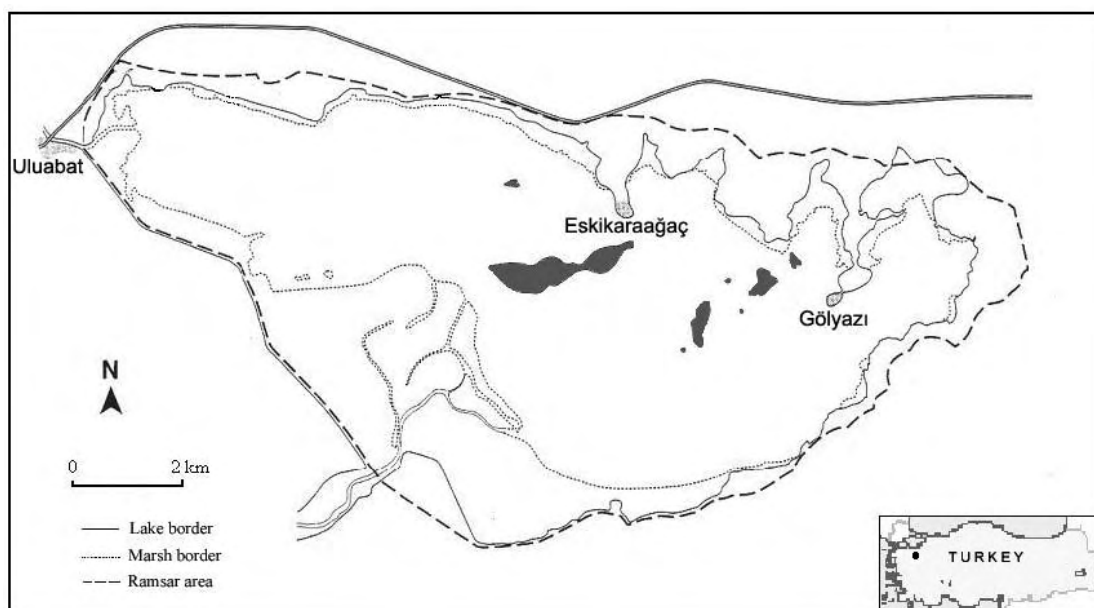


Fig. 1. Map showing the islands in the Lake Uluabat, from which the spiders have been collected.

Results

In this study, a total of 1198 adult individuals of 64 species from 54 genera and 25 families were collected in the Islands of Lake Uluabat from 2003-2005, including:

1 Ctenizidae, 1 Scytodidae, 1 Pholcidae, 2 Segestriidae, 2 Dysderidae, 1 Mimetidae, 1 Eresidae, 1 Uloboridae, 2 Theridiidae, 1 Linyphiidae, 3 Tetragnathidae, 8 Araneidae, 6 Lycosidae, 1 Pisauridae, 1 Oxyopidae, 4 Agelenidae, 1 Dictynidae, 1 Amourobiidae, 1 Titanoecidae, 1 Miturgidae, 8 Gnaphosidae, 1 Sparassidae, 2 Philodromidae, 7 Thomisidae and 6 Salticidae.

The spider species recorded from the study area are given in Table (1). In this study, the richest spider families, of number of species, were Araneidae and Gnaphosidae. This was followed by crab-spiders, Thomisidae, wolf spiders, Lycosidae, and jumping spiders, Salticidae. Araneidae, Gnaphosidae, Thomisidae and Salticidae were represented by the greatest number of genera.

Concerning habitats, most of the species were found in reeds and forest areas. Among them, Tetragnathids and Araneids were the most abundant families.

The zoogeographic classification of the spiders, on the basis of literature data reflecting their current distribution, shows that Palaearctic species are dominant (Platnick, 2011).

Table 1. The spider species collected from the islands of Lake Uluabat, Bursa.

Families / Species	World Distribution
1. CTENIZIDAE	
<i>Cyrtocarenum cunicularium</i> (Olivier, 1811)	Greece, Crete, Rhodes, Turkey
2. SCYTODIDAE	
<i>Scytodes thoracica</i> (Latreille, 1802)	Holarctic, Pacific Is.

3. PHOLCIDAE	
<i>Holocnemus pluchei</i> (Scopoli, 1763)	Mediterranean
4. SEGESTRIIDAE	
<i>Ariadna insidiatrix</i> Audouin, 1826	Mediterranean
<i>Segestria florentina</i> (Rossi, 1790)	Europe to Georgia
5. DYSDERIDAE	
<i>Dysdera crocata</i> C.L. Koch, 1838	Cosmopolitan
<i>Dysdera lata</i> Reuss, 1834	Mediterranean to Georgia
6. MIMETIDAE	
<i>Ero tuberculata</i> (De Geer, 1778)	Palaeartic
7. ERESIDAE	
<i>Eresus kollari</i> Rossi, 1846	Europe to Central Asia
8. ULOBORIDAE	
<i>Uloborus walckenaerius</i> Latreille, 1806	Palaeartic
9. THERIDIIDAE	
<i>Parasteatoda lunata</i> (Clerck, 1757)	Palaeartic
<i>Steatoda paykulliana</i> (Walckenaer, 1805)	Europe, Mediterranean to Central Asia
10. LINYPHIIDAE	
<i>Frontinellina frutetorum</i> (C.L. Koch, 1834)	Palaeartic
11. TETRAGNATHIDAE	
<i>Tetragnatha extensa</i> (Linnaeus, 1758)	Holarctic , Madeira
<i>Tetragnatha montana</i> Simon, 1874	Palaeartic
<i>Tetragnatha obtusa</i> L. Koch, 1837	Palaeartic
12. ARANEIDAE	
<i>Agalenatea redii</i> (Scopoli, 1763)	Palaeartic
<i>Araneus angulatus</i> Clerck, 1757	Palaeartic
<i>Araneus diadematus</i> Clerck, 1757	Holarctic
<i>Argiope bruennichi</i> (Scopoli, 1772)	Palaeartic
<i>Gibbaranea bituberculata</i> (Walckenaer, 1802)	Palaeartic
<i>Glyptogona sextuberculata</i> (Keyserling, 1863)	Italy to Israel, Turkey
<i>Larinioides cornutus</i> (Clerck, 1757)	Holarctic
<i>Neoscona adianta</i> (Walckenaer, 1802)	Palaeartic
13. LYCOSIDAE	
<i>Alopecosa fabrilis</i> (Clerck, 1757)	Palaeartic
<i>Pardosa amentata</i> (Clerck, 1757)	Europe, Russia
<i>Pirata piraticus</i> (Clerck, 1757)	Holarctic
<i>Trochosa hispanica</i> Simon, 1870	Mediterranean to Central Asia
<i>Trochosa robusta</i> (Simon, 1876)	Palaeartic
<i>Trochosa ruricola</i> (De Geer, 1778)	Holarctic, Bermuda
14. PISAURIDAE	
<i>Pisaura mirabilis</i> (Clerck, 1757)	Palaeartic
15. OXYOPIDAE	
<i>Oxyopes heterophthalmus</i> (Latreille, 1804)	Palaeartic
16. AGELENIDAE	
<i>Agelena labyrinthica</i> (Clerck, 1757)	Palaeartic
<i>Allagelena gracilens</i> (C.L. Koch, 1841)	Central Europe, Mediterranean to Central Asia
<i>Maimuna vestita</i> (C.L. Koch, 1841)	Eastern Mediterranean
<i>Tegenaria</i> sp.	
17. DICTYNIDAE	
<i>Dictyna latens</i> (Fabricius, 1775)	Europe to Central Asia

18. AMAUROBIIIDAE	
<i>Amaurobius fenestralis</i> (Ström, 1768)	Europe to Central Asia
19. TITANOECIDAE	
<i>Nurscia albosignata</i> Simon, 1874	Bulgaria, Cyprus to Central Asia
20. MITURGIDAE	
<i>Cheiracanthium punctorium</i> (Villers, 1789)	Europe to Central Asia
21. GNAPHOSIDAE	
<i>Drassodes cupreus</i> (Blackwall, 1834)	Palaeartic
<i>Drassodes lapidosus</i> (Walckenaer, 1802)	Palaeartic
<i>Drassylus luteianus</i> (L. Koch, 1866)	Europe to Kazakhstan
<i>Drassylus praeficus</i> (L. Koch, 1866)	Europe to Central Asia
<i>Haplodrossus signifer</i> (C.L. Koch, 1839)	Holarctic
<i>Nomisia exornata</i> (C.L. Koch, 1839)	Europe to Central Asia
<i>Phaeocedus braccatus</i> (L. Koch, 1866)	Palaeartic
<i>Scotophaeus scutulatus</i> (L. Koch, 1866)	Europe to Central Asia, Algeria
22. SPARASSIDAE	
<i>Micrommata virescens</i> (Clerck, 1757)	Palaeartic
23. PHILODROMIDAE	
<i>Philodromus cespitum</i> (Walckenaer, 1802)	Holarctic
<i>Philodromus longipalpis</i> Simon, 1870	Europe, Iran, Azerbaijan
24. THOMISIDAE	
<i>Ebrechtella tricuspidata</i> (Fabricius, 1775)	Palaeartic
<i>Misumena vatia</i> (Clerck, 1757)	Holarctic
<i>Runcinia grammica</i> (C.L. Koch, 1837)	Paeartic, St. Helena, South Africa
<i>Synema globosum</i> (Fabricius, 1775)	Palaeartic
<i>Thomisus onustus</i> Walckenaer, 1805	Palaeartic
<i>Xysticus abditus</i> Logunov, 2006	Bulgaria, Turkey
<i>Xysticus striatipes</i> L. Koch, 1870	Palaeartic
25. SALTICIDAE	
<i>Cyrbia algerina</i> (Lucas, 1846)	Canary Islands to Central Asia
<i>Evarcha arcuata</i> (Clerck, 1757)	Palaeartic
<i>Menemerus semilimbatus</i> (Hahn, 1829)	Canary Islands to Azerbaijan; Argentina, USA
<i>Philaeus chrysops</i> (Poda, 1761)	Palaeartic
<i>Phlegra fasciata</i> (Hahn, 1826)	Palaeartic
<i>Salticus scenicus</i> (Clerck, 1757)	Holarctic

Acknowledgment

We are indebted to Uludağ University (The Scientific Research Project no: 2003/8) for its financial support.

References

- Bayram, A., Kunt, K.B. & Danışman, T. 2010. The Checklist of the Spiders of Turkey. Version 10.1.0. Online at <http://www.spidersofturkey.com>
- Kaya, R.S. & Uğurtaş, İ.H. 2007. A faunistic study on spiders (Araneae) of Terzioğlu Island (Uluabat Lake, Bursa). *Journal of Biological & Environmental Sciences*, 1(1): 31-36.
- Platnick, N.I. 2011. The world spider catalog, version 12.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.
- Topçu, A., Demir, H. & Seyyar, O. 2005. A Checklist of the spiders of Turkey. *Serket*, 9(4): 109-140.